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ORIGINAL ARTICLES

SYMPOSIUM ON SURGERY OF THE PROSTATE.

MEDICAL COÖPERATION IN SURGERY OF THE PROSTATE.*

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The part assigned me in this important symposium will be presented briefly. The ancient antagonism between medicine and surgery shows itself more prominently in the field of prostatic surgery than almost any other. It stands out conspicuously against the very ancient and universal acceptance of surgical measures for removal of new growths and foreign bodies from the bladder. That the internists and general practitioners have not as yet accepted the benefits of surgery of the prostate is apparent to any one, and that there are good reasons for this attitude is equally plain. The history of prostatic surgery covers many generations of unsuccessful effort, which has deeply impressed itself on the medical mind. In this respect it is different from appendicitis, gall-bladder surgery and stomach and intestinal surgery, which came into the field as almost new procedures for new disorders, born of aseptic methods and untrammeled by long years of unsuccessful effort, and for this reason were more readily accepted.

It is different with the poor prostatic, with his frequent and painful urination, his anxious look and emaciated body. He has had his prostate tunneled;[1] has had it perforated with a lance-shaped stylet;[2] has suffered the torture of systematic compression;[3] has been subjected to incision as an emergency procedure for retention of urine, or has had his prostate accidentally[4] incised during perineal lithotomy; has had hard

* Read before the Section on Surgery, Illinois State Medical Society, at Springfield, May 15-17, 1906.

1. John Hunter: On Venereal Disease; works edited by Palmer, London, 1835, vol. ii, p. 279. Sir Everhard Home: On Tunnelling the Prostate, Trans. Philos. Soc., Lond., 1805. Sir B. C. Brodie: Works, Lond., 1865.

2. Chopart: Traite des Maladies des voies Urinaries, Nouvelle Ed. Paris, 1830.

3. Physick: Dorsey's Surgery.

4. Sir Henry Thompson: Disease of the Prostate, London, 1853. Gouley: Trans. Am. Surg. Assn., 1885. Chopart: Traite des Maladies des Voies Urinaries, Nouvelle Ed. Paris, 1830. Sir Wm. Bozzard: By Guttrie, 1806.

tumor masses twisted off, supposedly from the bladder, during such procedures. He has had prostatic and periprostatic abscesses opened and portions of the prostate cut away with the expectation that the remainder of the hardened area would then be absorbed. He has had his prostate incised by instruments introduced through the urethra;[5] he has had his prostate subjected to the cautery,[6] and the cautery has also been applied extensively through suprapubic and perineal incisions. His bladder has been tapped and continuous catheterization[7] has been established, and this has been combined with urethral incision[8] of the prostate; he has had his bladder punctured by the suprapubic route, the perineal route and the rectal route, and urinary fistulæ have been established;[9] numerous improvements in the manner of making the fistulous opening, especially the suprapubic, have been introduced.[9] Perineal fistula and drainage with prostatotomy has been extensively tried[10] and met with considerable favor. In addition to having his prostate and bladder incised and punctured in various directions and in many ways, the prostatic came in for a large amount of effort at local treatment by medicines and otherwise. Injections of iodin,[11] ergotin, etc.,[12] directly into the prostate, as well as parenchymatous injections through the rectum have been tried. The prostate has had a full share of electricity,[13] and the obstructing parts have been excised[14] and various partial methods have been tried until finally a prostatectomy was made.[15] Even then the poor prostatic had to be carried through a long series of trial procedures, all more or less unsuccessful, and yet all leading in the direction of complete enucleation.[16] Ever since the introduction of the procedure of enucleation the fate of the prostatic has been partly lost sight of in the controversies as to priority and the comparative value of methods so similar that the ordinary medical man sees no material difference between them, and several years have been consumed in trial methods of enucleation, both suprapubic and perineal. The prostatic in the meantime has gone through many experimental operations, as ligation of the internal iliacs, castration, vasectomy and others too numerous to mention, each having an element of usefulness. If it was not for the fact

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5. Guthrie: Anatomy and Diseases of the Neck of the Bladder and Urethra, London, 1834. Mercier: Recherches sue le Traitement des Maladies des Organes Urinaries, Paris, 1856. Gouley: Trans. Am. Surg. Assn., 1885.

6. Bottini: La Galvanocaustic mella Practica Chirurgica, Novara, 1873. Frendenberg: Berliner klin. Woch., 1897. Young: Jour. Amer. Med. Assn., Jan. 11, 1902. Meyer: N. Y. Med. Rec., 1898; Trans. Am. Surg. Assn., 1903. Horwitz: Phil. Med. Jour., 1901. Watson: The Operative Treatment of the Hypertrophied Prostate, Boston, 1888. Bangs: N. Y. Med. Record, 1901. Bouffeur: Annals of Surgery, 1902.

7. Everhard Home: Trans. Philos. Soc., London, 1805. Physick: Dorsey's Surgery.

8. Parrish: Practical Observations on Strangulated Hernia and Some of the Diseases of the Urinary Organs, Phil., 1836. Thompson: Lancet, 1875. Keyes: Surgical Diseases of the Genito-Urinary Organs and Syphilis, New York, 1883. Edwards: Med. Times and Gazette, London, 1885.

9. McGuire: Trans. Am. Surg. Assn., 1888. Morris: N. Y. Med. Jour., 1890.

10. Harrison: Brit. Med. Jour., 1881. Whitehead: Brit. Med. Jour., 1889. Braun: Centralbl. f. Chir., 1885.

11. Heine: Archiv. f. klin. Chirurg., 1874.

12. Iversen: Hypertrophia Prostate, 1874.

13. Morean-Wolf-Cheron and Morean-Wolf.

14. McGill: Trans. Chir. Soc., Lond., 1888.

15. Belfield: Jour. Am. Med. Assn., 1887.

16. Freyer: Brit. Med. Jour., 1901, 1902, 1903 and 1904; Stricture of the Urethra and Hypertrophy of the prostate, 1902; Lancet, 1904.

that medical men, as well as the people, have been trained, for untold generations, to take drugs, it would be perfectly plain that long ago we have allowed the palliative treatment to go to seed. In fact, little or no distinction has been made between palliation and cure. Copaiva, saw palmetto, oil of sandalwood, pichi, buchu, bromids, ergot and many other drugs have a limited range of usefulness as palliatives, but we should draw a sharp distinction between palliation and cure. When it is evident that conditions are growing worse; that the residual urine is increasing; that the frequency of urination and pain are debilitating the patient; that the integrity of the whole urinary system is threatened and that a choice must be made between frequent and painful, dribbling urinations or catheter life and surgical intervention we should not fail to advise timely operation, unless positive contraindications exist.

The principal steps in the development of the surgical treatment of hypertrophy of the prostate are mentioned to show the peculiarly unsatisfactory path which has been traversed in arriving at a rational method of operating and to emphasize the discouraging effect which all this has had on the mind of the profession and of the people. Is it any wonder that even some of the best men in medicine are slow to believe that we have finally reached something worth while for these miserable patients? Are the surgeons and specialists sure that the value of present procedures is proved and does the surgical work of the past three years stand out as a clear and convincing argument in favor of the value of such operations? The older men are discouraged by the many failures of the past and most of them will be unable to develop confidence in the present work. All that the specialists and surgeons say will have little practical effect. It is a sad fact that many important advances must await the passing of a generation before they come into full usefulness. Elaborate papers by investigators and specialists have their place in collecting and presenting the conditions and methods of progress. The work of the surgeons proves the usefulness of the procedures and furnishes the statistical results, but all of this is of little avail against the old prejudice toward surgery in general and toward prostatic surgery in particular. This is especially true as to the man who has never dissected the perineum, or perhaps has never seen a human prostate enlarged or otherwise, and, sad to relate, these men are a majority in the profession to-day. A number of surgeons of wide experience who depend entirely on cases referred by brother practitioners for their surgical work have told me that they have never had a case with an enlarged prostate referred directly for operation by a general practitioner, but have frequently had patients refuse operation on account of adverse advice from their family physician. It would be a great error to conclude that such advice was not honest, or even that it had any element of selfishness or malice in it. It is a question of education as well as of point of view.

The modern surgeon, after traversing a maze of trial and experiment, has finally emerged into the open of satisfactory methods, which it is believed the test of time will approve. He is beginning to have a goodly

number of statistics to fortify his claims. If the problem for the prostatic has in the main been solved, as many believe it has been, how are we, as surgeons and practitioners, to give the man with the enlarged prostate the benefit of such a procedure? The improved and successful methods of operating and curing these cases will be of very limited value until they receive the endorsement and support of the general practitioners. The important thing to the patient with an enlarged and distressing prostate is that his doctor should not only know about these improved operations, but that his doctor should be sufficiently convinced of their value to recommend them in his case. Otherwise, as far as the individual patient is concerned, there is nothing gained. It is self-evident that before any considerable proportion of these cases can be reached there must be a hearty coöperation between the family physician and the surgeon. Given a patient in just that stage of prostatic embarrassment where his physician is about to advise him to supply himself with a catheter and begin catheter life, how can that practitioner be weaned away from routine palliative measures and give to each case an independent study? While all must admit that some cases are only amenable to palliative treatment, it is time that this class should rapidly grow smaller. The only way to advise the patient properly is to thoroughly examine him first. The practitioner who can be induced to examine all his cases thoroughly will, of necessity, study each one. The subject will interest him and he will begin to read up, and will soon discard routine palliation and replace it by rational advice. After exhausting the list of hygienic and therapeutic remedies, instead of advising his patient to begin catheter life, he will give him the more rational advice of a timely operation, if his case is one which is suitable for operation, and most cases, if taken early, can be relieved by operation. Has the work which has been done carried that conviction into the profession which would be expected from it, or has this work been so unsatisfactory that it does not deserve the endorsement of the general practitioner? There is no doubt that the work would carry this conviction, if it could be fully understood. There is almost no field for surgery where success has been attained amid greater obstacles than in surgery of the prostate. Most of the cases operated on have been far advanced and complicated, and the results are far from what they would be, if cases were selected and operated at the proper time. In this field, as in others, the result will improve in proportion as cases are referred early. Operations performed as a last resort, after all other measures have failed and when it is evident that the patient will soon die, never give to surgery a "square deal" and are no credit to the care and advice of the family physician.

The problems arising between the general practitioner and prostatic surgery are not peculiar to this field, excepting that here the prejudice is more marked than in some others, but the problems of education are the same. Our postgraduate schools are doing a good work, but they are for the most part far away in the large cities and, at best, only reach a small number of men. Unfortunately, most of these are out more to

see the sights of surgery than for serious postgraduate study, and the practical results are comparatively small. The time has come when the medical man must take the study of medicine more seriously. The profession is just beginning to be impressed with the rapidity with which we fall behind, if we do not keep up systematic study of the advances as well as of the established fundamentals. The time has come when every county medical society should convert itself into a local postgraduate school, and, instead of assembling once a month to listen to textbook essays, should meet once or twice a week for regular study, with duly appointed teachers who have prepared themselves on the subject assigned. There is no county society in this state which can not establish such a course, to the great advantage of all and, above all, to the sick and suffering, who entrust their lives to our care and who are relieved, or cured, or drag out a miserable existence and go down to an early grave, according to whether he has a doctor who is alive and abreast of the times or one who looks on with wise inefficiency.

One can hardly overestimate the result, if each county society in this state would establish these local study courses, with six or eight evenings devoted to the prostate, its anatomy, its pathology and its treatment. There is no county society which can not have a subject for dissection. Dissect the perineum and learn its landmarks. Know where the prostate is located and its relation to the bladder, the urethra, the seminal vesicles and the rectum. See what causes the irritation and the obstruction, and just where and how these conditions are brought about. Replace hypothetical and symptomatic knowledge with a real knowledge of the local anatomy and pathology of the structures involved. Then the symptoms presented by our miserable prostatic, who is evacuating his bladder every hour, day and night, will begin to have a different meaning, and, instead of giving him a catheter and advising him to carry infection into a viscus, which is already only half drained, and allowing that infection to involve the whole urinary apparatus and finally destroy our patient, we will examine him carefully, determine the exact conditions, and, if they are such as to be safely and successfully reached by surgery, advise him early to have the obstruction removed, thereby making him again comfortable and useful and prolonging his life.

Technical papers before our societies and in our journals, by specialists and surgeons, are the essential basis of progress, but practical papers by our prominent internists, advocating early operative interference, carry far more weight with the general practitioners, who sometimes suspect the surgeons and specialists of being special pleaders.

Both of these combined with the work of the postgraduate schools, have comparatively small influence with the great body of practitioners who read few books and journals and attend few societies, excepting the ones in their county or town, and are very irregular attendants at those. A more far-reaching and comprehensive plan of study must be developed if practical coöperation in keeping abreast of the times is to be attained. Every county society must resolve itself into a school for serious study of the problems of rational diagnosis and treatment. Only in this way can

we hope to eradicate prejudice and empiricism and establish in its place a working knowledge of practical progress and furnish to the sick and suffering rational and unselfish advice. The time has come when the people, as well as the members of the profession, should understand that the physician who does not study and associate himself with his colleagues for the purpose of keeping abreast of the times can not be safely entrusted with the serious problems of disease. The man with an enlarged prostate has a right to advice based on a knowledge of anatomy, physiology and pathology, as well as the most advanced procedures and their results.

THE PRESENT STATUS OF THE BOTTINI OPERATION FOR THE RELIEF OF PROSTATIC OBSTRUCTION.*

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The resurrection of the Bottini operation by Freudenberg's modifications of the apparatus and technique in 1897, marks the milestone between—what I may call in the vernacular of the English language—"prostatic embarrassment" and "frenzied surgery." Before this epoch much confusion existed, not only regarding the treatment of prostatic obstruction, but also much uncertainty concerning its etiology and diagnosis. If for no other reason, we should at least feel indebted to Freudenberg for having caused investigations and discussions which resulted in clearing the situation, and putting the question of prostatic enlargement, its diagnosis and proper management, on a solid foundation. And I think I do not exaggerate when I say, the conservative advocates of prostatectomy have received many inspirations from the battle which was waged for and against the Bottini operation, from its results, its failures and its apparent limitations.

In order to properly appreciate the present position of the Bottini-operation, a few words on its origin, its development and its underlying principles are required. In the middle of last century Mercier advocated the bloody division of the obstructing portion of the prostate through a perineal opening—prostatotomy—a procedure uncertain in its results, because the linear cleft closed soon after it was made, and dangerous on account of the profuse hemorrhages and impending urinary infection. Early in the seventies Bottini introduced the galvanocaustic prostatotomy "per vias naturales" with specially designed instruments. Inadequacy of the electric supply and of the incisor, and consequently an inferior technic did not permit of many satisfactory results, and prevented the method from becoming popular. Freudenberg's clever modifications of the incisor, the electric supply and the surgical technic in 1897 were followed by much better results which in turn engaged the active interest of the profession in the disease, in its pathology and in its management.

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The underlying principle of the operation differs materially from prostatectomy. In the latter the whole gland is removed; in the former the obstructing part or parts of it are divided by the cautery blade of the incisor. The point of attack is around the vesical neck. The cautery blade in its downward movement burns a deep cleft in the vesical protrusion, which increases in width and depth as the eschars are thrown off. This is the result of galvanocautery, whose effect is not limited to the contact surface but radiates more or less into the tissues for one-fourth of an inch and more in all directions. Sepsis by absorption is not to be expected if the bladder be thoroughly cleaned before the operation and the urine, as far as possible, sterilized by the urinary antiseptics given internally for a while preceding the operation. During the incision the heated blade forestalls septic infection of the wound, and afterwards the solid eschar will prevent this accident. Hemorrhage should not be looked for if the operation be properly done.

Originally Freudenberg used the cautery blade at red heat. After my second operation early in 1898, I concluded that too much heat was given up to the tissues by the blade to securely seal the blood vessels with a solid eschar and I employed and advocated a white heated blade. Since then scarcely anything has been heard of alarming hemorrhages, and more satisfactory results—due to a deeper and wider cleft—were observed. This cleft virtually represents a breach in the prostatic protrusion resulting in a free communication between the urethra and the retroprostatic pouch, or the vesical cavity as a whole, as the case may be. Oftentimes free urination in a good stream follows immediately upon the withdrawal of the instrument, sometimes where complete retention existed for years and the bladder has become overdistended or contracted and weak, the improvement is gradual, the amount of residual urine decreasing, and spontaneous urination increasing in quantity from day to day.

In my earliest publications I advocated leaving a catheter in the urethra for the first few days following the operation, in those cases in which the bladder does not completely empty itself immediately after the incisor is removed. This is preferable to the repeated catheterization which eventually becomes necessary, due to the reactive swelling around the wound, lasting from two to four days. Under such conditions catheterization is not only extremely painful and sometimes even impossible, but these frequent manipulations disturb the eschar, causing profuse bleeding and secondary infection of the prostate and testicle, as we usually encounter a more or less infected urinary tract and contaminated urine. The eschar comes off in the second and third week and blood appears in the urine at this time. It is a granulation hemorrhage, usually does not amount to much, and if alarming can—as I have practiced it for years—always be checked by placing a catheter in the bladder. An empty bladder, for anatomical considerations, is about the best hemostatic in most hemorrhages from its cavity and from the prostatic urethra. General anesthesia to perform the operation is not only not necessary, but considering the class of patients operated on, not desirable.

A 2 per cent. cocain-adrenalin solution deposited at the vesical neck and along the urethra is sufficient to insure relative comfort for the patient for an operation which, according to the number of incisions, takes from three to ten minutes. Rest in bed for a few days following the operation, unless other conditions or complications should demand a longer confinement, is all that is necessary. This point is especially valuable as the old enfeebled patients are only too susceptible to pneumonia and other serious troubles arising from an enforced recumbent position of long duration. It is but natural that coming at a time when prostatectomy was in its infancy and had a very poor showing both in its final results and its mortality, the rejuvenated and improved Bottini operation should and did attract widespread attention and interest. An operation with a mortality rate much lower than any other performed for the same purpose; an operation not requiring the much dreaded anesthetics, and if properly performed not attended with the dangers of hemorrhage, urine infection and general sepsis, not followed by fistula, impotency, and hardly ever by incontinence, offered great possibilities. Add to it the short confinement, the visible and rapid restoration of the urinary function, the cessation of gastrointestinal troubles and last but not least, as the patient views it, the elimination of the knife; and one can easily understand the enthusiasm which the method aroused everywhere, and also the numerous operations which it invited and many of which should never have been performed.

"Improvements" of the improved instrument, the technic and the electric supply, came thick and fast; just as we saw it in prostatectomy. Some proved of material value, most of them had none at all, others were really dangerous. Most, if not all of them, I have discussed in my publications years ago, and I mention here but a few. In the preparatory stage camphoric acid—introduced by Freudenberg—is given in doses of fifteen grains three times daily, as a urinary antiseptic instead of urotropin. It seems to be very effective in preventing urethral fever and does not cause vesical irritation, as urotropin does sometimes. When the urine is ammoniacal iodoform suspensions are injected for a time preceding the operation until it has become acid. This prevents premature softening of the eschars, postoperative hemorrhage and the formation of phosphatic concretions on the raw wound surface. The employment of the street current with a converter and amperemeter—advocated by Frisch in Vienna—instead of the portable batteries eliminates the disturbing and dangerous inconstancy of the electric supply from storage cells. In order to distend the bladder before operating, 100 c.c. of water or an antiseptic fluid is used, the purpose of which is to prevent a bladder fold at the vesical neck from being caught by the cautery blade. Bransford Lewis, calculating that the water surrounding the blade takes away too much of its heat, employs air instead. The idea is a very good one where one has to rely on storage cells, but may be dispensed with where the street current can be employed. Since the cystoscope proved of material assistance in diagnosing the vesical protrusions and also complications such as trabeculi, diverticuli, stones and tumors,

it is but natural that it was employed as a valuable aid in the prognosis and for exacter work in the Bottini operation. So for instance may a perfect result be predicted in the absence of all vesical complications or an imperfect one in an advanced hypertrophy of the bladder wall or in the presence of several or large diverticuli. A cystoscopic survey will contraindicate a Bottini operation in the presence of—otherwise not detectable—vesical calculi which for certain reasons are not amenable to a lithotripsy, such cases being suitable for prostatectomy. Yet under favorable conditions lithotripsy can be performed preceding the Bottini operation. In a patient seventy-two years old, referred to me by Dr. A. C. Crofton, of Chicago, I crushed a uric acid stone 6 ctrs. long and 4 ctrs. wide and performed a successful Bottini operation a week afterwards. The cystoscope is indispensable with a well planned cautery incision. In this connection I think I was the first to point out the necessity of placing the incision in the protrusion as recognized through the cystoscope instead, as it was customary to make three conventional incisions; one in the middle lobe, one in the right and one in the left, without knowing which one caused the obstruction. Yet there are surgeons who are opposed to cystoscopy in prostatics; some claiming it can not be done, and others because they consider it a dangerous procedure. If done by experts it is harmless, and cases in which a cystoscope can not be passed on account of the enormous size or the peculiar configuration of the protrusions in the prostatic urethra and around the vesical neck are not suitable for the Bottini operation, but for prostatectomy. For the same reason I do not approve of modified incisors in which the cautery blade is higher than 1½ ctrs. or which allow an incision longer than 3 ctrs., the original Freudenberg scale. Cases presenting so much or more elongation of the urethra as to require such deep or long incisions will not be benefited by the Bottini operation, no matter how long or how deep the incision be made. Various alterations and modifications of the wheel and screw and substituting a rack gear or rod pulled downwards by the fingers have only assisted to emphasize the value of the original Freudenberg instruments. None of them represent a real improvement, most of them are a step backward. The principal of combining cystoscopy and cauterization in one instrument, as it appears in the Bierhof Freudenberg and Wossidlo cystoscope-cauterizer, constructed a few years ago, owes its conception to the objection of some surgeons to operate in the dark and to the desire to place the cautery blade exactly at the apex of the protrusion and follow its course through it.

I have demonstrated that the success of the Bottini operation does not depend on this point, but on the cleft being established somewhere in the protrusion deep and wide enough to open a free communication between the urethra and the bladder. The cystoscope, while of material value before the operation, is during its progress not only unnecessary, but it is impracticable. The introduction of the voluminous cystoscope cauterizer in the bladder over the much congested prostate, is followed by so much bleeding that a clear view is barely possible, and even if it were so the blade disappears from view as soon as it approaches the pro-

trusion. The fact that Freudenberg used it but once speaks for its questionable merit. For the purpose of maintaining the proper position of the beak in its relation to the protrusion to be incised I devised and use an arm rest placed between the patient's legs.

Disappointing is the number of patients having a recurrence of the symptoms of obstruction, after a longer or shorter period of apparently free and more or less perfect urinary function. I have observed them as early as five months after the operation, and as late as four years; and it was my privilege to first call the attention of the profession to this fact in a paper presented at the annual meeting of the American Urological Association, in Saratoga, June, 1902. This recurrence of the symptoms of obstruction is not surprising considering the progressive character of the trouble. A limited galvanocaustic incision can not be expected to completely eradicate a possible tendency to hypertrophy of the rest of the gland. Freudenberg's statistic shows twenty-one relapses in eighty-five operated cases, about 25 per cent. Of these appeared: 13 after 1 year, 4 after 2 years, 1 after 3 years, 2 after 4 years, 1 after 6 years.

I am ready to concede that the thoroughness of the cauterization has a good deal to do with the ultimate results and that relapses are less frequently observed as the technic and experience of the surgeon improves. But this is not sufficient to explain away the cases, which I have observed, in which the relapse, i. e., obstruction, was due to a lobe which at the time of the operation appeared normal. It would mean killing the calf to save the fly if we should follow his advice to make multiple cautery incisions in order to prevent a possible relapse. Extensive cicatrization and serious damage to the vesical sphincter are bound to follow such desultory procedures. However, in the event of a relapse, the battle is not lost, because the operation may be and has been successfully repeated. On the other hand, it must be admitted that the scars left by an unsuccessful Bottini operation may eventually seriously handicap a subsequent "prostatectomy" on account of profuse hemorrhage, due to the then unavoidable extensive destruction of the capsule. But if the indications for the Bottini operation are narrowed to the limitations which I tried to point out several years ago, these incidents would rarely if ever occur.

First.—Cases of very old emaciated patients, who cannot endure the shock of a general anesthetic and a prostatectomy, or patients with advanced heart and kidney lesions. A moderate infection of the upper urinary ways is not a contra-indication. Obviously, all these subjects will not live long enough to have a recurrence of the obstructive symptoms, and most if not all of them will find relief for the rest of their life with the least possible risk.

Second.—Third group of patients on whom Bottini operation may be performed are those who although younger and in good physical condition and therefore suitable subjects for prostatectomy, will not consent to it on account of the greater risk connected with the operation, and the strong probability of becoming sexually incapaciated.

Third.—Patients presenting what Chetwood calls symptoms of prostatism without a prostatic enlargement. In these cases the obstruction is caused by a fibrous infiltration of inflammatory character around the vesical neck. They show urgent and frequent urination, pain during and after the act and partial or complete retention of urine. But as a rule the prostate is of normal size upon rectal palpation, and the urinary distance—a distance from the cut of muscle to the vesical sphincter—is not at all or but slightly increased. Most likely the failure to relieve by prostatectomy, the symptoms of urinary obstruction in many cases is due to the failure to recognize this sclerosis of this vesical neck as the real cause, and perhaps others recorded as prostatic-hypertrophy successfully operated and permanently relieved by the Bottini operation were actually such cases of sphincter contraction.

Just now where prostatectomy is being overdone, where the strict advocates of one route are ferreting out the weak points of their opponents of the other route, a reaction is due, and I should not be surprised to see the more conservative element in the profession turn around and pay more attention to the Bottini operation. For this reason a more detailed statistic would be desirable. It should include the following data:

First.—Number of cases operated in first, and each consecutive year.

Second.—Age and condition of the patient at the time of the operation—with special reference to the condition of the circulatory apparatus, the kidney and the bladder.

Third.—The urinary distance, respectively the size of the protrusions.

Fourth.—The bacterial flora of the urine before operation.

Fifth.—The quantity of residual urine, and frequency of urination before and after the operation.

Sixth.—Time elapsed between the operation and last examination.

Seventh.—Number of perfect results, failures, relapses and deaths recorded separately from each year.

In this way it would be possible to more accurately determine:

First.—Which cases are suitable for the operation.

Second.—To what extent is Freudenberg's contention as to the cause of the relapse and failure correct.

Third.—It would conclusively demonstrate that the operation is a conservative surgical method for the relief of prostate obstruction, practically harmless, and should not show any mortality under certain conditions which are:

First.—A perfectly functionating apparatus, electric supply, incisor, etc.

Second.—An operator familiar with cystoscopy, experienced in litholapaxy and in the manipulating of instruments in the bladder.

Third.—A thorough pre-operative preparation of the patient constitutionally and locally, and careful post-operative attention.

Fourth.—Exclusion of all cases of urosepsis, of far advanced kidney lesions from any cause, and of cases in which the urine harbors streptococcus or the proteus of Hauser.

SUPRAPUBIC VERSUS PERINEAL PROSTATECTOMY.*

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There are three recognized operations for the enucleation of the hypertrophied prostate: perineal, median urethral and suprapubic prostatectomy.

1. Perineal prostatectomy was proposed by Dittel in 1890. The prostate is removed through its posterior surface, which is exposed by an extensive transverse incision or dissection of the perineum, the particular form of skin incision, whether transverse, curvilinear, inverted V-shaped or other being a minor feature. The extensive destruction of the perineal muscles and occasional sloughing of the rectal wall caused by this perineal dissection frequently entailed disastrous sequelæ—notably perineal and rectal fistulæ (in about 8 per cent. of 2,000 cases operated), permanent incontinence of urine (about 3 per cent.), severe stricture of the perineal urethra (about 7 per cent.), besides minor ailments, including epididymitis and impotence. The latter, the loss of erectile power which so often follows this operation, results not from the loss of the prostate —which is not essential to erection—but from destruction of the perineal muscles, which are necessary to complete erection. Removal of the prostate by suprapubic incision, by which the perineum is not damaged, is admittedly without effect upon the erectile function, as is its experimental removal from rats and other animals. Cure of the urinary retention occurred in about 50 per cent., death in 7 to 11 per cent.

Because of these disastrous sequelæ, perineal prostatectomy, which was revived and enthusiastically exploited by French surgeons from 1900 to 1905, is virtually lapsing into disuse in Europe; eminent American surgeons, who followed the French in praising it, have now also abandoned it.

2. Median urethral prostatectomy requires merely a simple median incision into the prostatic and membranous urethra, through which the finger is introduced into the prostatic urethra and bladder. With the finger nail or other instrument, the mucous membrane covering the prostatic tumor is incised, these growths are enucleated into the bladder and removed by stone forceps or scoop. As no damage is inflicted on perineal muscles or rectum, it is entirely free from the serious sequelæ—fistulæ, incontinence, strictures, impotence, etc.—that have caused the general abandonment of perineal prostatectomy. Cures have been about 60 to 70 per cent., mortality 3 to 5 per cent.

This operation is, when practicable, eminently satisfactory; but its field is restricted by the brevity of the average finger, which fails to enucleate the prostate, especially its middle lobe, when very large. Though the finger may be supplemented by appropriate instruments, yet there remain many prostates too large for safe removal through this incision.

3. Suprapubic prostatectomy, by which the prostatic tumors are made freely accessible to both eyes and fingers without damage to the

* Read before the Section on Surgery, Illinois State Medical Society, at Springfield, May 15-17, 1906.

urethra, is anatomically ideal. The clinical results have been, except in one particular, equally ideal. Restoration of the bladder function and freedom from all the distressing sequelæ of perineal prostatectomy have been the rule with but relatively few exceptions. The one serious exception to these ideal results has been the exceedingly grave one that the immediate mortality of the suprapubic has been markedly greater than that incidental to the other operations; this mortality has ranged from 10 to 15 per cent., about one-half greater than that of perineal prostatectomy (7 to 11 per cent.).

This relatively high mortality has been the only objection to the suprapubic operation, and is to-day the only excuse for the perineal prostatectomy; for were the mortality of the two procedures practically identical there could be no excuse for exposing the patient to a 20 per cent. chance of finding himself in a far more wretched condition after than before the operation. This is just what perineal prostatectomy does, while the suprapubic operation does not.

The excess mortality of the high operation is admittedly caused by septic infection of the suprapubic space and pneumonia; and these, in turn, result from leaking around the suprapubic tube and stagnation of urine in this space. While many ingenious devices, such as siphon drainage, the purse-string suture, perineal drainage, etc., have been used to prevent urine leakage and stagnation in this space, yet all has been found unreliable; leakage will occur, and septic fluids will not rise out of the wound against gravity. Yet there are two reliable methods for preventing septic infection of the tissues composing the suprapubic space, the first old, the second novel. They are: 1. to abolish this space by performing the operation in two stages, the first consisting of an incision to the bladder, the wound being packed with gauze; five days later, when this wound is protected from infection by granulation, the bladder is opened and the prostate removed. When these separate steps are performed under nitrous oxid anesthesia, the maximum of safety is attained. I have done 19 operations in two stages in patients over 60 years of age, without mortality. 2. The second, and original, method of preventing infection of the suprapubic space is by draining this space through the perineum. A small drain, tube or silkworm gut, is passed through an opening at the lowest point of the suprapubic space, at the posterior surface of the triangular ligament, out through the perineum, making an almost vertical exit for the gravitation of fluids; the suprapubic wound is closed without drainage. This I have done in 11 cases without a death attributable to sepsis.

Freyer, it is true, whose excellent results from suprapubic prostatectomy have largely induced its general adoption in Europe, has reduced its mortality to 3 per cent. (one death in 35 cases) without these precautions against sepsis; his only provision for drainage being a large tube in the bladder. Yet it would seem wise to employ every feasible precaution against so formidable a danger.

The present status of prostatectomy seems to me, therefore, to be as follows: The extensive dissection of the perineum necessary to reach the posterior surface of the prostate—perineal prostatectomy—has been

largely abandoned by the very men who championed it a few years ago. The choice lies between median urethral and suprapubic prostatectomy; the former safer and therefore preferable when the prostatic growths are small, the latter available for all cases. Since the differentiation is not always possible in advance, a perineal urethrotomy may properly be made for digital exploration; if enucleation can not readily be made, the suprapubic incision can be added, and the perineal urethrotomy utilized for a drainage tube, the upper wound being closed. Security against sepsis of the suprapubic space is procured by draining this space into the perineal wound. When the patient is notably feeble, suprapubic prostatectomy in two stages under nitrous oxid anesthesia seems to afford the maximum of safety.

The danger of sepsis from the suprapubic operation has been notably reduced by the use of urotropin (under its various names). The internal administration of this agent renders the urine a good antiseptic solution. Some surgeons, including J. B. Murphy, now consider the mortality of the suprapubic and perineal operations about equal.

CONTRIBUTION TO THE SURGERY OF THE PROSTATE.*

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If we correctly understand the unexpressed idea of the general medical profession concerning the damage wrought by an hypertrophied prostate, it is that prostatic troubles commence usually some time after middle life; that they are due to the encroachment of the constantly enlarging gland upon the prostatic urethra, thus more and more occluding its lumen, until the flow of urine from the bladder is greatly impeded or completely stopped, and that this mechanical disturbance constitutes the entire damage wrought by the hypertrophied prostate, all concomitant evils being due to septic conditions. Hence, the prevailing idea is that the removal of the prostate should cure all urinary troubles caused by it as quickly as the system recovers from the operation, which is usually about thirty days. The operation is adjudged skilful or unskilful, and the methods of the operator faultless or otherwise, according to the local condition at the end of this time. In other words, we believe that it is the opinion of a majority of medical men that an enuresis, or dysurea, due to hypertrophied prostate, which persists longer than thirty days after prostatectomy, is due to unskilled operating, or faulty methods of the surgeon.

It is one of the purposes of this paper to set forth facts upon which we shall base an appeal from this judgment, and to ask our brothers in the profession to consider these facts, with us, and change their verdict. To do this we should review, briefly, the anatomy of the urinary bladder, especially its musculature and nerve supply, and of the prostate body, both in their normal conditions, and in their relations to each other.

The prostate gland is located at the neck of the bladder. Its base is

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in contact with the bladder wall. It is enveloped by a dense fibrous capsule. Normally, its base measures about one inch transversely. The fibers of the detrusor urinæ muscle originate from the posterior surface of the os pubis and from the capsule of the prostate anteriorly. From this narrow origin they diverge, passing longitudinally over the anterior surface of the bladder to the fundus, over the fundus and back over the posterior surface of the bladder, converging, as they return, to be inserted into the capsule of the prostate, posteriorly (Fig. 1). The sphincter vesicæ has its origin and insertion in a raphe on the posterior surface of the bladder wall. It is an annular muscle surrounding the neck of the bladder, some fibers of which surround the vesical end of the prostatic urethra. It is in contact with the base of the prostate (Fig. 2). It is

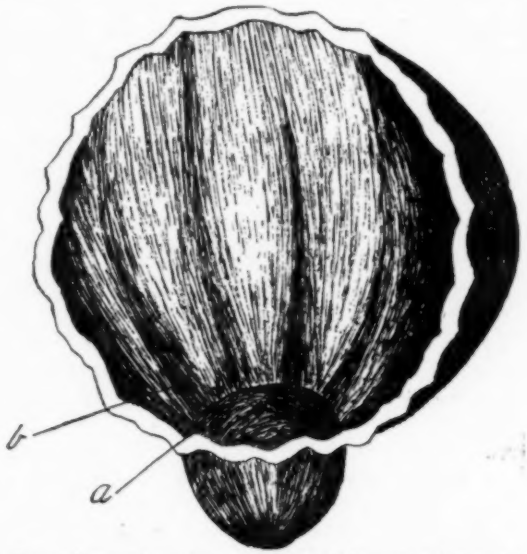

Fig. 1.—a, Base of normal prostate. b, Fibers of detrusor urinæ muscle, in normal condition.

somewhat misleading to use the term neck in connection with the bladder. The bladder really has no neck, or projection from it, such as we usually term a neck. The urethral outlet, and the structures about it, are called the neck of the bladder, but there is no projection of the bladder wall itself. The above muscles, at the neck of the bladder, are supplied with fibers from the vesical plexus of the sympathetic nerve, which accompany the middle and inferior vesical arteries, on each side of the vesical trigone, close to the posterior border of the normal prostate, and by branches from the third and fourth sacral nerves.

The physiology of the normal bladder is about as follows: The urine flows into the bladder (the bladder being in a passive state) until such a quantity has entered as to cause a stimulus to the nerve centers. This

quantity varies with different individuals. The detrusor urinæ muscle then contracts, forcing the urine directly to the urethral outlet. The sphincter vesicæ also contracts, and both muscles, working in unison, force the stream of urine into the urethra, and against the external sphincter which surrounds the membranous urethra, known as the compressor urethra muscle. This muscle is controlled by cerebrospinal nerves, and is subjected to the will of the individual. The pressure of the urine against this muscle causes the desire to urinate, but the escape of the urine is controlled by the will of the individual, exerted through the nerves controlling this muscle, and aided by the action of the cerebrospinal nerves distributed to the walls of the bladder. By this arrangement, the individual controls the flow of his urine for a long period of time.

What deviation from the above occurs when the prostate enlarges? It is obvious that the fibers of the detrusor urinæ muscle, at their origin and insertion, must become separated, more and more, as this process continues. The gland often enlarges to four or five times its normal size. In such cases the fibers of the detrusor urinæ muscle, at their origin and insertion, are separated four or five times more than is normal. When this muscle now contracts, it does not direct the urinary current to the urethral outlet, as it normally did, but to a space four or five times as large, and, as there is no depression at the neck of the bladder, or trumpet-shaped mouth to the urethra, into which the urine flows, it is forced against the side of the bladder wall (Fig. 3). It is plain that a force applied, in this manner, to the volume of urine in the bladder, would be much less efficient in emptying the bladder than if it were normally applied. It would also be a potent factor in the formation of the sac, at the base of the bladder, in which residual urine collects in these cases (Fig. 4).

We know, by careful dissection, that there is a close connection between the fibers of the detrusor urinæ muscle and the fibers of the sphincter vesicæ. When the fibers of the detrusor urinæ muscle are spread out to five times their normal distance, the fibers of the sphincter vesicæ, to which the detrusor fibers are attached, are rendered inefficient. Their contractile powers are overcome. They can not perform their normal function, while those fibers of the sphincter vesicæ which are in contact with the base of the prostate are widely separated and greatly attenuated, and their function is impaired, if not destroyed. If there were no other disturbances than that to the musculature, produced in this manner by the enlarged prostate, dysuria would result. This might require of Nature more than thirty days to remedy, after the removal of the prostate.

The hypertrophied prostate is very susceptible to the influence of cold and wet, and, as a result, inflammatory or congested conditions are many times set up in it before the combined chronic enlargement and acute congestion or inflammation render the bladder completely inefficient. Lying as it does in contact with the sphincter vesicæ, and the detrusor urinæ, having its origin and insertion in it, this inflammatory process must

involve these muscles. Thus adhesions take place, binding all these structures together, and destroying every semblance of their normal action. Is it reasonable to conclude that Nature can restore these structures to their normal condition and function, in every case, within thirty days after the removal of the gland?

We have seen that the nerves which supply the muscles at the neck of the bladder, lie in close proximity to the normal prostate. When the prostate enlarges to four or five times its normal size, is it possible for these nerves to escape injury? It certainly is not, and we believe that to the injury done these nerves by the enlarged prostate, more than to any other cause, is due the cases of protracted enuresis following prosta-

Fig. 2.—*a*, Sphincter vesicæ fibers in contact with base of normal prostate. *b*, Fibers of sphincter vesicæ in contact with fibers of detrusor urinæ muscle. *c*, Normal fibers of detrusor urinæ muscle.

tectomy. When we consider the pathologic conditions, which are inevitable consequences of some forms of hypertrophied prostate, we should not only be satisfied that Nature can not restore these organs, in every case, within thirty days after the operation, but it should be a matter of surprise that any of them recover so quickly.

Why do we advise and perform the operation of prostatectomy? Because the enlarged prostate has destroyed the normal function of certain organs by disarranging them, and by causing such conditions as render them useless, so that urinary troubles result. We take away this enlarged body, so that the organs it has crushed and distorted may assume again, as nearly as possible, their normal condition and function. We all know, if we think at all, that prostatectomy may not cure at once the troubles to relieve which it is done. It is not like an appendectomy, which re-

moves the offending organ in a few moments, and with it the whole trouble. When we remove the prostate gland, we only put the organs which are damaged in a way to recover, and then trust them to the good offices of time and Nature.

How many thousands of operations have been performed upon the male urethra and bladder, for different conditions, producing more operative traumatism than is ever produced by the skilful surgeon in doing a prostatectomy? And yet enuresis, or dysurea, is not a sequence of these operations. In view of these facts, is it just to charge the various urinary troubles, which sometimes persist for more than thirty days, after prostatectomy, to the operation?

If an hypertrophied prostate has so far destroyed the structures of the bladder as to place them beyond the powers of Nature to restore, they will remain in that condition after the prostate is removed. If the

Fig. 3.—*a*, Base of hypertrophied prostate. *b*, Fibers of detrusor urinæ muscle widely separated at insertion due to enlarged prostate.

structures are only half-dead, when the prostate is removed, then the patient must bide his time until Nature can revivify them. Unfortunately, none can tell, before the removal of the prostate, how much damage has been wrought by it; neither can any one tell, in advance, except as he judges from past experience, how much, nor how little, urinary trouble will follow the operation.

I do not wish to convey the idea that all forms of this malady produce, upon the vesical structures, the same effects. We know they do not, but, in my experience, these forms which do not produce these conditions are not followed by postoperative urinary troubles.

What should physicians, in these cases, expect for their patients, from surgical procedures? It has been our custom, for comparative pur-

poses, to divide these cases into three classes, the segregation being based upon the physical condition of the patients when presented for operation. These classes are as follows: The partially incapacitated, the incapacitated, and the feeble. My observations herein are based upon thirty successive cases, and, I believe, faithfully answer the above query. Of these thirty cases, nine belonged to the feeble class. The degrees of feebleness varied from those able to totter about with a cane to one who could not, without assistance, turn in bed. Their ages varied from 60 to 80 years; catheter life, from 6 to 11 years; enuresis and dysurea, from 1 to 5 years. All were septic. Of these nine, one died, or 11 9/10 per cent. Five of the nine had postoperative troubles lasting longer than a month, or 55 5/9 per cent.

There were twenty-one cases in the other two classes of incapacitated and partially incapacitated. Two of these had postoperative troubles lasting longer than a month, or 9½ per cent. In other words, there were not half as many cases, in the feeble class, as there were in the other two classes combined, but the per cent. of mortality and postoperative troubles lasting longer than a month is more than seven times greater in the feeble class than in the other two classes combined.

Basing our comparative estimates upon the thirty cases treated, we have the following: Nine, or 30 per cent., belong to the feeble class; one of these died, or 3 1/3 per cent. of the thirty treated. Five of the nine, or 16 2/3 per cent. of the thirty treated, had postoperative troubles lasting longer than a month. In other words, 20 per cent. of the thirty cases treated who died or had postoperative troubles belonged to the feeble class. In the other two classes, there were twenty-one cases, or 70 per cent. of the thirty cases treated, with no mortality, and only two cases, or 6 2/3 per cent. of the thirty cases treated, who had postoperative troubles lasting longer than a month.

The final outcome of the thirty cases is as follows: Died, 3 1/3 per cent.; well within one month after the operation, 73 1/3 per cent.; well within two months after the operation, 90 per cent.; well within four months after the operation, 93 per cent.; well within six months after the operation, 96 2/3 per cent. It is obvious from the above that if physicians would procure the best results, in this work for their patients, they should refer them to the surgeon before they reach the feeble class.

The attitude of the physician toward his patient is always one of helpfulness, but it is a question sometimes how he can be most helpful, or how he can apply his knowledge in such a way that his patients shall be best served and that he shall maintain his standing with his patient. Perhaps there is no condition in which perfect candor with the patient plays a more useful part than in these cases of hypertrophied prostate. The patient's knowledge of his condition is usually thrust upon him suddenly. The prostate gland has been enlarging for years, but unknown to the patient. Following an exposure of wet or cold, an acute inflammation or congestion takes place, in the enlarged gland, which occludes the urethra and prevents the flow of urine from the bladder. This condition had probably been repeated many times before in the diseased gland,

but up to this time the chronic enlargement and the acute congestion, or inflammation and congestion together, had not sufficiently enlarged the gland to occlude the urethra.

The family physician is now called to relieve this trouble, and the patient, for the first time, is made acquainted with his true condition. After relieving the patient, the physician should assume the rôle of a teacher. He should explain, in detail, the nature of the malady, the course it will run, and the dire effects it will produce if unmolested. He should condemn the use of the catheter, and point out why it is an instrument of danger. He should also impress the patient with the fact that

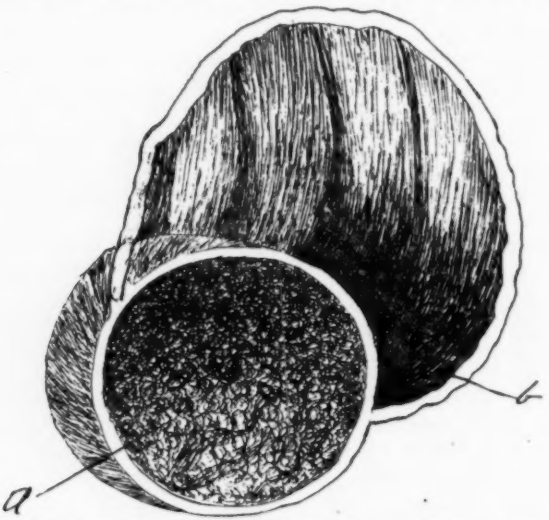

Fig. 4.—a, Sagittal section of hyperthophied prostate and bladder. b, Sack formed behind enlarged gland in which residual urine collects.

therapeutics are useless, except as palliative. In other words, in this lecture, the physician should vividly and truthfully portray what the patient will, in all probability, experience as the malady progresses. By this procedure, the physician has placed himself in such an attitude with his patient that he can not criticise as his troubles multiply.

When this talk is finished, the patient invariably asks advice as to the best course for him to pursue. The attitude of the physician now changes to that of an advisor. Is there any question, at the present time, as to the best advice that can be given? We believe not. There is but one way to cure the trouble, and that is to treat the diseased gland surgically. There is no time which offers such good results as the present. Hence, the advice should be to have the gland treated at the first possible moment. About 80 per cent. of the cases thus handled will submit to surgical treatment.

About 33 1/3 per cent. will seek the operation at once, or in a short time. This class of cases are in the best possible condition, and will re-

ceive all the benefits from the operation, within the shortest time, and with the least possible risk. The mortality in this class will not exceed one-half of 1 per cent., and the postoperative troubles should be none. Thirty-three and one-third per cent. of the 80 per cent. who will have the operation will postpone the work until they have demonstrated the truth of the lecture they have received, and will then accept the situation and have the gland treated usually while they are in good condition. The mortality in this class should not exceed one-half of 1 per cent., but in my cases the postoperative troubles have reached 6 2/3 per cent. This I believe to be a fair estimate.

The remaining 33 1/3 per cent. will enter the feeble class and will present themselves for the work under the most unfavorable conditions. In this class, a mortality of 12 per cent. may be expected, with 50 per cent. of postoperative troubles, lasting longer than a month after the operation. This should not deter us, however, in our work in this class, for all will succumb to the condition, after a painful existence of a few months, without the operation. If we can restore to health and comfort eighty-eight out of every one hundred of these sufferers in this class, we are doing a commendable work.

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DISCUSSION.

Dr. William Fuller, of Chicago:—I did not expect to be called on to discuss these papers. There is on point, however, on which I would like to speak, and that is with reference to the demonstration made by Dr. Murphy and so well explained by him. He called attention to the fact that, when the enlargement of the prostate gland is outside of the bladder, its removal could be best effected through the perineum; but, when thoroughly enlarged within the bladder, the suprapubic route would prove the preferable one. This all seems well enough, if we were always able to make perfect diagnoses regarding the size, and more particularly the direction of the enlargement. But the real question is, how often can we do this with exactness? In what per cent. of these cases will we find a gland enlarged wholly within or without the bladder? How many of these cases will show the enlargement of this gland as described by Dr. Murphy? In my experience, it is seldom seen. It is, as a rule, intra- and extra-vesically enlarged, and rarely presents very striking exceptions to this. I believe that in very few cases the gland can be best removed by the abdominal route, provided the abdominal wall is not too prominent or thick; but it is more accessible from below, while it must be admitted that adjacent structures are more likely to suffer injury in the removal of the gland by this route. I believe it to be a mistake to remove the prostate piecemeal, or by morcellement, as it is sometimes called.

With reference to what Dr. Kreissl has said regarding the treatment of these cases by the Bottini method, I believe that there are, perhaps, a few cases amenable to that treatment; cases which are greatly improved, if not entirely cured by it, and in which no other operation should be done. Again, there is a class of cases in which there is very pronounced increase in size of the prostate, attended by the usual manifestations for the relief of which no operation should be done. To the man who has made it a rule to remove every enlarged prostate presenting the now well recognized symptoms of this condition, this will not appeal; but palliative measures carefully selected and intelligently and persistently applied, will not fail to bring relief to the majority of the properly selected cases. If the plain facts regarding the post-operative sequelæ, in a large number of prostatectomies, are put to these patients, the importance of the palliative treatment, and the good to be derived from it, will be easy to impress

on their minds. The so-called catheter life of to-day is no more like that of twenty years ago than is the surgery of the present and past. Properly and patiently used, supplemented by dietary and all other hygienic measures, palliation offers a more comfortable existence to many old men than can possibly be provided by any operation. There is not a surgeon to be found who would not gladly accept any conservative treatment that would hold out the least possible hope of improving his own condition in an affection of this kind, and, certainly we are not just in offering to these sufferers as the only alternative, measures which we would never consent to except as a last resort.

Dr. Carl Beck, of Chicago:—The subject of prostatectomy has been so thoroughly discussed that very little remains to be said, except that I desire to call attention to one point which Dr. Belfield would have mentioned if he had been here, and that is the condition of patients which may be called the feeble class, or which may be called the infective class. They are very weak; their vitality is lowered from infection, and these patients can be improved materially by instituting permanent drainage suprapubically before removing the prostate. This method is analogous to removing an abscess of the appendix before removing the appendix itself. I have had patients of this class within the last year, two of whom have come to me in a very low, feeble condition. By permanent drainage their condition so improved that operation was successful, which, in the first place, would have been fatal if they had been operated on during the septic condition.

Dr. Frederick A. Leusmann, of Chicago:—I have not had much experience with prostatectomy, for a little over half a dozen cases I count no experience, I shall content myself with making a few general remarks. We have listened to glowing reports of success. There are three kinds of reporters. There is the objective and truthful reporter that gives true, operative results and ultimate effects. Then there is the reporter who is honest in making his report, who is sincere, but who is deluding himself. His reports are just as false as they can be, but he is sincere. His reports are more or less worthless. Then, we have the commercial reporter. His reports are not what he claims them to be, but for the purpose of advertising himself, for commercialism, to get the country doctors to send him business, he says that his successes are marvelous; that his percentage of failures is at the lowest possible point. Since that is so, in the nature of things it is difficult for us to place statistics where they ought to be. You all know that not very long ago, when we first began to fool with the prostate—I say fool, because we are still fooling with it, and because there is no harmony—every one started to grind his own litttle ax. Perhaps he is grinding it now. I don't know. But there is a marked disagreement with reference to prostatectomy, particularly its early performance. I want to know if these men, who are ever ready to remove the prostates of their patients, are likewise ready to have their own cut out at the first sign of trouble. A thing may be true in theory, but that does not make it true in fact. If we believe those who remove the prostate suprapubically, they often obtain marvelous results. Dr. Murphy brought out the point that Freyer had been lying. He had to retract his statements. If I make a statement that is not true, it is, in plain English, a lie. Freyer was lying. The suprapubic operation was not everything it was represented to be. Then the Bottini operation came into vogue. I do not know whether Dr. Murphy is right or not, but he seems reasonable when I listen to what he has to say. What he has said is very good. When I listen to Dr. Ferguson I am almost ready to worship at his shrine; and in listening to Dr. Fuller his points were very well taken. He brought out that some times or often the beautiful, typical cases mentioned by Dr. Murphy did not turn up. The prostates stuck out a little more each way; some times the other way or any way. Therefore, you conclude the radical operation is a good thing, and you keep doing prostatectomies; and for all that I know that may prove to be the right principle. Some time in the future, it is hoped this problem will be solved, but at the present time we are still working at it.

Dr. Carl E. Black, of Jacksonville:—I think the last speaker has well illustrated what I said in my paper, that the genitourinary practitioner is on both sides of the fence, or he is under the fence in regard to this question of prostatectomy. We should study the best methods for relieving this condition, and apply them in suitable cases. I think it can be said with perfect candor that the average general practitioner has not carefully studied this condition. He does not know of what it consists, how it is brought about, what it is, and how it can be relieved. It seems to me perfectly plain that if we have an obstruction, the thing to do is to remove it. Naturally, until each one of us looks into this matter and sees it as it is, sees it for himself, there will be little progress made. The specialist and surgeon in reading papers do little for the prostatique himself, for the man who wants to be relieved, and unless this matter is considered by the average general practitioner and is made plain to him, there will be comparatively little accomplished. That can be done by systematic study of this subject. That is perfectly plain, and the place to do that study is at home among ourselves, in our county societies, by organizing postgraduate courses of study at home and looking into these subjects in a practical way.

Dr. M. R. Barker, of Chicago:—I think what Dr. Beck has said is eminently correct, and his procedure has been mine and possibly everybody's if they expect to succeed in these feeble cases. I believe it should be the practice of every one who is treating prostatic troubles surgically to make it a rule, as far as possible, not to operate on the infected gland in the presence of an infected bladder, whether you can operate suprapubically or perineally. I would rather take the chances of the perineal than the suprapubic route, but I do not believe the operation should be attempted in either case, if we can avoid it, and we most always can. These old men can be operated on by suprapubic cystotomy and the bladder drained in some way. The bladder can be washed out, and later the prostate may be removed. I believe that is the proper way to treat these cases.

With regard to the condemnation of the catheter, of which I spoke, I mean every word I said. The catheter should be condemned. I do not want to go outside of my paper in the discussion of that subject. I stated that the family physician first sees the prostatique when he has his first spasm of prostatic trouble. What should be the advice in that case? It is best to cure him, is it not? Is there any other thing that will cure him? I condemned the catheter because it is not the treatment of the condition at all. It is simply a palliative method. The catheter must be used every time the patient wants to urinate, whether once or fifty times. It does not aim at the treatment of the condition; it is simply palliative, and that is all. Supposing you take a patient who just presents himself with an enlarged prostate; you draw his urine, which is the proper thing to do; you give him a catheter and say, "Use this catheter so and so." And he will use it. Do you think for a moment he will give up that catheter until he has reached the feeble class described by Dr. Beck? He will never abandon it in the world until it abandons him, or he cannot use it any longer. He will continue to use it until he can not pass it into the bladder, and then he will call on some surgeon to remove the prostate in his feeble condition. There is subject matter enough here to write a volume about in condemnation of the use of the catheter. Think of the mental condition that is produced by the man who uses a catheter! Any of you, who have studied these cases, will find that soon after an old man has begun to use the catheter he gets out of society, he gets out of business, and becomes a recluse. He does not want to be seen around, because he has to urinate every hour; he has to go somewhere and use the catheter. Do you think it is the proper thing, as a physician, to tell that man to use a catheter when you know there is a treatment that will cure him every time in the condition he is in when he first presents himself? I say, it is my duty as a physician, as a man who is interested in his future physical condition, to advise him while he is in good condition to have his prostate removed, while it is a benign operation, so to speak. It is the only proper thing to do.

With regard to the other point I have spoken of in my paper, I think we as

surgeons are largely to blame for writing about it in our medical papers. We take up somebody's article, in which he describes the perineal operation, or some other operation, and he says he does this operation because the percentage of post-operative troubles after it is much less than after the other operations. The prostatic urethra passes through the prostate. The ejaculatory ducts are in the prostate. Can you take away the prostate suprapubically and not disturb those things? Can you take away the prostate perineally and not disturb them? The conditions are just the same. It does not make any difference whether you go in from above or below, you will disturb those things.

Dr. Ferguson (closing the discussion):—My paper was directed towards one object, the perineal operation of choice. When a case has been decided in its diagnosis; when an operation is to be performed, in the vast majority of cases the perineal operation should be the operation of choice; that through the perineum you can remove—at least, I feel I can—any enlargement of the prostate. To say that when they are pedunculated you must go in from above and remove these polyps, if I may so call them, is not so. I have removed a number of them through the perineum. If the lateral lobes are not enlarged, it is an easy operation to split the perineum as for stone in median line, pass the middle finger in, and with forceps seize the pedunculated portion of the prostatic tissue and turn it out through the perineal route through the internal vesical part, through the prostatic urethra, and that is the end of it, if it has a small pedicle. If it is sessile; if you get formations in different directions, you sometimes get them overhanging from the lateral lobe, which will shut off the vesical flow from above downward; then you can remove them in the same way as you do the other lobes. When the middle lobe is projecting from behind, to say that one can not remove the prostate without disturbing the ejaculatory duct is not true. I have proven repeatedly that I can remove the prostate through the perineum without disturbing the ejaculatory duct. In old men you do not care whether you cut through them or not.

The catheter discussion does not properly belong to this symposium. I use the catheter in some of these cases. Usually, however, the cases that are referred to me are operative ones; but I prepare my cases for about a week before operation. I regard that as necessary. I find I have to operate at the end of that time, sometimes at the end of two weeks. Let us suppose there are stones in the bladder from the inflammation and suppuration, which we can not get rid of either by suprapubic cystotomy or by perineal drainage, and we have to render the bladder just as aseptic as we can before removing the prostate.

In the feeble cases I remove the stones, then I can get direct drainage. In the case of the old physician in Bloomington, I did the operation in two stages. I found an encysted stone. I removed the enlarged prostate first, which enabled me to get rid of more sepsis, and then I removed the stone when the bladder was septic. His bladder is still in a septic condition, and that is why he had a perineal fistula. If you remove the prostate, you have to go after it while there is suppuration in the bladder, and I have resorted to one thing that I have not previously noticed, and think it of some use. I have a judge with an enlarged prostate who does not want to undergo an operation. He gets ammoniacal urine, with retention; I catheterize him and wash out his bladder every two or three days in succession, just as often as he comes. After washing it out I leave it nearly full of a feeble antiseptic solution, and massage is added. A simple way of massaging the bladder to increase its contractibility is, after having it full, take an ordinary rubber syringe, fill it with antiseptic solution, work it in and out of the bladder, tell him to urinate, and he will pass two or three ounces. The bladder is contracted. You can repeat that, after which he will urinate some more, until you get the residual urine down to a minimum. You leave sufficient antiseptic solution in the bladder to contract it; then the patient will go on for two or three weeks until some more is done.

A practitioner in Elkhart, Ind., was never able to see the necessity for prostatectomy. He got hold of an old man who had an enlarged prostate, who

could not urinate, and began to pass a catheter. He was a busy man. The old man tried to pass a catheter on himself, and as he had only one hand, he infected himself, so that he could not continue to catheterize himself. This physician then recommended prostatectomy, which was consented to, and performed by myself. In this case a beautiful result was obtained, although the patient was asthmatic and over 76 years of age.

THE MACROSCOPIC AGGLUTINATION OF THE TYPHOID BACILLI AS A DIAGNOSTIC TEST FOR THE GENERAL PRACTITIONER.*

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The macroscopic agglutination reaction refers to the phenomena which result when typhoid bacilli, in a liquid suspension, are exposed to the action of typhoid immune serum, which has the property of clumping these organisms and causing a visible precipitation of the clumps thus formed. As is well known, the characteristic features of the microscopic or Gruber-Widal test are the arrest of motion and the formation of bacilli into clumps. The macroscopic reaction differs from this only in that it affords opportunity for the exposure of a greater number of bacilli to the action of the serum, and the consequent formation of clumps which are sufficiently large to be visible to the naked eye. The precipitation of these clumps in the test tube is a third and even more characteristic phenomenon and constitutes an end reaction which is unmistakable.

The development of the technic of this test had its origin in an observation that in the mixture of the diluted blood and the bouillon culture in a test tube, preparatory to a microscopic test, a clumping and precipitation of the organisms occurred. The same process was observed when bacilli from agar cultures were suspended in water or salt solution and mixed with serum. Further tests showed that bacilli killed with heat or various antiseptics reacted as well or even better than the live organisms, for the reason that with dead bacilli the clumps formed are permanent if the mixture is allowed to stand, and will reform in less time than before if they are broken up by shaking; whereas the live bacilli may multiply after a few hours and break up the clumps already formed, or by the turbidity produced obscure the reaction. The essential details concerned in the preparation of the emulsion herein recommended are the results of a long series of experiments dealing with various cultures of typhoid bacilli and the influence of different media upon their agglutinability. The experiments also concern the efficiency of the various antiseptics used for the killing and preservation of the bacilli, the turbidity of the emulsion, and the methods of collecting and diluting the blood used in the test.

The conclusions are not yet compiled in a manner suitable for publication, but will be presented in the near future. As a preliminary an-

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nouncement, I would state, however, that the emulsion which has proved most efficient is a suspension of agar cultures of highly agglutinable typhoid bacilli in a 1 per cent. salt solution to which is added .6 per cent. of formalin. The turbidity index which is representative of the number of organisms present corresponds to the opacity of a mixture of one part of tincture of benzoin in approximately 15,000 parts of water. In rapidity of agglutination and reliability of results, this emulsion equals and, with many serums, surpasses the preparations now on the market, including the much discussed Ficker "Typhus Diagnosticum," a secret preparation which has been so favorably received in Europe.

For experimental purposes, when large quantities of serum are required, the best method of collecting the blood is by aseptic puncture of a vein in the arm with an aspirating syringe of 5 or 10 c.c. capacity. The blood obtained is placed in a test tube and allowed to stand until the serum has separated. For clinical tests, however, a sufficient quantity of blood can be obtained by puncture of the lobe of the ear under aseptic precautions. The blood may be mixed directly with distilled water in the proportion of 1 to 15, or a drop may be placed on absorbent paper or on a glass slide and allowed to dry. The dried blood can be used any time subsequently by dissolving it in 15 drops of distilled water. This, when mixed with an equal quantity of emulsion, gives an ultimate dilution of blood of 1 to 30. When the fresh blood is mixed with the diluting fluid, it should be allowed to stand until the fibrin and the corpuscles have settled before mixing with the emulsion, or it may be added to the emulsion at once, but, in this case, a control tube should be made of the diluting fluid, as the precipitate formed by the undissolved fibrin and corpuscles might otherwise prove misleading.

The use of the serum, obtained by allowing the blood to coagulate, is better than the whole blood for experimental purposes, for the reason that in a given quantity of serum the amount of agglutinating material is greater than in the same amount of blood and, in low dilutions, no interference by corpuscles and fibrin occurs, thereby making possible the easier recognition of slight or incomplete reactions.

It has been generally recommended, in text-books, that a dilution of blood is equal to one-half the same dilution of serum. The experiments upon which this report is based show that the difference is not as great as this, and attempts are now being made to establish a more correct coefficient or ratio. Until this is done, if a dilution of blood or of serum is used, the same should be stated, as computations of blood dilutions in serum values are obviously incorrect.

It must be emphasized that an arbitary dilution of blood of 1 to 30 and of serum of 1 to 50 is of value only when the amount of agglutinin is small; in other words, early in the disease. When the agglutinins present are great in amount or when the blood possesses a high agglutinative value, as it does when the disease is at its height, greater dilutions must be used. The reason for this is not clear, and it is not the object of this paper to enter into the discussion of this point. It is sufficient to say that a serum of high value will not agglutinate an equal quantity of

emulsion of typhoid bacilli in low dilution as 1 to 50, as well as in dilutions of 1 to 100 or higher. For this reason, several tests with different dilutions are recommended.

DETAILS OF TEST.

To 1 c.c. of the emulsion in a 4 c.c. test tube there is added an equal quantity of distilled water containing a stated amount of blood or serum. The tube is then corked and inverted a few times to insure mixing of its contents. The first change observed in the mixture is an increased turbidity, due to the formation of minute flocculi or clumps. These increase in size, causing a transition from a finely granular to a coarsely granular appearance. As the flocculi become larger they become more and more distinct until they slowly settle to the bottom as a white precipitate, leaving the supernatant fluid clear. The above is a description of a typical complete reaction, but in cases where the agglutinins are insufficient the reaction may not proceed beyond the formation of flocculi, or, if precipitation does occur, the supernatant fluid remains slightly turbid. Such an incomplete reaction may be considered highly significant of the presence of agglutinins, but repeated tests should be made from day to day until a complete reaction occurs.

In numerous experiments it has been observed that slight continuous agitation serves to increase or hasten the formation of flocculi, but prevents the complete precipitation of the same. This fact suggests that placing the tubes in the pocket where they are convenient for observation really enhances the reaction. Complete precipitation can be obtained by allowing the tubes to stand for a short time.

The advantages of this reaction over the microscopic test are obvious. The latter necessitates the possession of a microscope, a fresh bouillon culture of typhoid bacilli, repeated observations and a familiarity with a rather tedious technic. In this test, the dilution and admixture of serum and emulsion can be done at the bedside, the tubes placed in the pocket and observations made during leisure moments. In point of delicacy, most cases of typhoid fever will show formation of flocculi with the macroscopic almost as quickly as with the microscopic test, although early in the disease cases are met with in which the agglutinins of the blood are present in such small quantities that the clumps formed are recognizable only with the microscope.

It should be remembered that this reaction is not an absolute indication of the presence of typhoid fever, but is only an index to the presence of agglutinins in the blood, and the interpretation of its occurrence is subject to the same restrictions which apply to the microscopic reaction. Agglutinins may not be present in the blood of typhoid fever patients until late in the disease and may persist for several years after recovery.

Infection with paratyphoid bacilli will also cause the formation of agglutinins acting on typhoid bacilli, and, owing to the similarity of symptoms, confusion of these two conditions is undoubtedly frequent, but until the advent of the anti-typhoid serum the differentiation is not of great importance from a therapeutic standpoint. A typhoid bacillus, highly agglutinable to typhoid immune serums, which does not agglutin-

with some paratyphoid immune serum, has not yet been obtained, and until such can be found the use of a paratyphoid emulsion which may be prepared and used in the same manner as the typhoid emulsion is advised. Paratyphoid immune serums do not, as a rule, agglutinate typhoid bacilli in as high dilutions as paratyphoid bacilli, and, if the dilutions are equal, the agglutination takes place more rapidly with the paratyphoid emulsion. The ease with which the test may be performed and the opportunity thus afforded to confirm or strengthen the diagnosis of a disease, which is often confused with other conditions, should make it a part of the routine examination in all cases, where typhoid is a suspected or even a possible condition. The macroscopic test with emulsions far less delicate than the one now perfected has been used at various times in the wards of the Cook County Hospital and proved satisfactory. It is to be expected that in the general employment of this test some new facts will be discovered which have not been met with in the experimental work or in its, as yet, limited clinical application, but, considering the general principles upon which it is established, there seems to be no reason why it should not be generally adopted as a simple, reliable diagnostic procedure.

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TREATMENT OF THE OPIUM HABIT.*

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I believe morphinism is a disease. With those who think as I do, there are two theories. There is, first, what may be called the physical theory. Throwing aside the element or factor of the use of opium or its alkaloids merely in cases of pain, or to woo sleep, men use morphin because the distorted nerve cells in their all-distorted bodies clamor for the drug as the stomach hungers for food or the lungs demand air. This is the physical theory. Then there is the mental theory, not totally distinct and divorced from the physical one, but playing along beside it a much larger part in the problem than, until recently, men have learned to admit. It is not merely the congested stomach; it is not alone the half-starved nerve cell; it is not only the anemic brain; it is not merely the whole abnormal physical machinery together that offers adequate solution; but the drug habitué is one, because of the hard, inexorable necessities that cover all his mental firmament with dull and neutral clouds.

Your heavily worked physician, your business man taxing his every energy to meet the thousand contingencies and intense and promising possibilities; your author whose book must be spiced up to the demand of modern literary taste; your woman of society, who burns the candle of life at both ends, find in the enchantment of the softly whispered

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promises of morphin, the friend who shall spread a shimmer of brightness over their extended field of incessant care. Your devotees of pleasure, as their energies begin to lag, and the nerves of their systems so constantly strung to concert pitch, no longer respond as a whole to the normal realities of existence, would fain, if it be possible, start the wheels around with faster rotation, would put a heavier pressure upon the engines of the sensibilities of existence, and in the opium dream, they find what their dull sensations crave.

The former of these theories is that of the materialist, who finds his explanation of most of life's enigmas in the potency of matter to account for the facts of life; the other is the ground of the idealist, who looks for his explanation of what he sees and hears in the dominance of that mysterious something we term mind in its power over matter. Are they both correct, or neither? As usual, the truth is more likely to be found between the extremes of the swing of the pendulum. A tortured and abnormal working physical system accounts for a very large class of the observable things that we meet.

In my opinion, the thousands who are addicted to morphin are so because of minds that seek relief, of brains that can not apply the brakes to thought, and because of a lesson they have learned too late, that these modes of relief which they have sought so eagerly have been purchased at the cost of a reconstruction and a new abnormal organic structure as well as functional working of the entire physical organism. Put these two solutions together, give each its adequate scope, and we have gone far to reach, if we have not reached, the actual end of this problem.

We speak of the alcohol habit, of the opium habit; what do we mean? A man has a habit of buttoning his coat in a certain way. Daniel Webster is reported to have once said that he could change the style and character of his speeches easier than the habit of wearing a certain kind of collar. One man has a habit of early rising, another a habit of morning bath, another a habit of certain kind of mode of speech. Is that what we mean, and all that we mean, when we say that a man is in the morphin habit, merely that custom has taken control of the helm of volition and that his habit is a something that has this power over his life, and no more?

What is the distinction between a habit and a disease? That is a habit which a man does merely from repetition, which writes no deeper imprint into his life, which makes no deeper groove in his soul than is the result merely of the accumulation of individual actions, the yesterdays and yesterdays making the path of that action easier for to-day and to-morrow. The fingers of the pianist habituate themselves to rapid and almost automatic action. That is a disease when the checking influence of some portion of the nervous organism is changed in construction or altered in its method of action. If it is a change of structure we say the man has an organic disease. If it is a change in a mode of action, we say that man has a functional or biochemic disease. A man with an intermittent heart, whose pulse beats vary in time, we say has a functional disease of the heart. The man whose heart valves do not com-

pletely close, where those heart valves have been changed in form, we say has an organic disease of the heart. The opium habit would be a habit if the effect of yesterday passed into and out of the system and left no change or imprint there. The opium habit is a disease, provided that in nerve cell, in the brain, in the spinal cord, blood corpuscle, or in other cells, biochemic change of structure or alteration of function has taken place, because of the effect of the poison.

We have measured, with reasonable accuracy, the rate of speed that sensation travels along the path of the nerves. That rate of sensation in the normal man has one rate of progress; along the nerves of the morphin habitué it has another. That process which we term absorption and elimination in the normal man has one mode of action as to rapidity, as to completeness; in the body of the morphin habitué it has another. In the body of the opium eater, every nerve cell, every atom of bodily tissue, has reconstructed itself to meet these changed and abnormal conditions. The consequence of a habit, with this restriction of significance, is virtually to leave the man as he was. Webster could have changed the shape of his collar and still been the great Webster. The man who buttons his coat upon the right side can button it upon the left and still be the same man. The man with organic or functional disease written not only upon him, but written into him and permeating him through and through, presents an entirely different proposition.

Of all the tissues of the human body, the nervous system is the one whose changes are the most subtle, whose results reach farthest and whose abnormal working produces the most intense results upon character. The broken bone unites in a few weeks, and, when the sufferer from fracture has laid his crutches away, he is the same man he was before the accident. The man whose muscular system is injured does not find that his life has undergone any special change. But change the structure or disarrange the workings of the nervous system, and you have an element entering into the problem, which produces results far different in kind. I have seen the man of unswerving integrity, who was temperate, genial, kind, cordial; I have seen such a man's moral character go all to pieces under a severe attack of neurasthenia. I have seen the strong man become puerile, the man of serene temper become more irritable than a sick child, the honest man become a liar, the temperate man change to a dipsomaniac, the man of pure and chaste thoughts become licentious, all because of disordered nerve action. When, therefore, we are dealing with an agent like morphin, whose whole force is expended upon that portion of the physical organism that produces results like these, we need not doubt the existence of a diseased condition, nor wonder at the Protean forms in which the opium fiend writes its autograph into men's deepest chambers of experience.

THE TREATMENT OF MORPHINISM.

In the treatment of morphinism, the physician should take into account certain symptoms resulting from the constitution of the habitué which are not directly due to the disease and in many instances bear no relation to it. Many of the states described in the title of opium

habit occur principally in cases of inherited and acquired nervous effect which has led to the addiction. Morphin habitués occur in degenerates, in cases of acquired neurasthenia, in diabetics, in victims of rheumatism, traumatism, gout and insolation, in congenital and acquired hysterics. Simple removal of the morphin habit, therefore, will not remove all symptoms which have been charged to it, especially since there is a great tendency with morphin habitués, as with alcoholics, to charge all their delinquencies and disorders up to the drug. Not only is this the case, but very frequently the habit is charged to a physician who has given morphin to control opium marasmus acquired from the sudden abstention from an opium nostrum which the patient has used without the knowledge of its contents. Some years ago, Dr. Buchanan's Scotch Oats Essence and Harriet Hubbard Ayer's Vita Nuouva were the sources of much morphinism. The last named was endorsed by several leading Women's Christian Temperance Union people as a cure for nervous diseases. It is said to have contained 2 per cent. of morphin, 1 per cent. of cocain, and 50 per cent. of alcohol. One clergyman endorsed it not because he knew anything of the value of the compound, but because he knew its manufacturer socially.

The first question in the therapeutics of morphinism, is whether the Levenstein method of stopping the drug abruptly should be adopted or whether the drug should be gradually withdrawn. Few constitutions will stand sudden withdrawal of the drug and the resultant opium marasmus. Certainly no one over sixty years of age should be subjected to such a strain, as the cerebral arteries have a tendency to yield to increased blood pressure, and cardiac neuralgias occur which may kill as quickly as angina pectoris. Gradual withdrawal, however, will succeed even in cases of this type, albeit excellent professional opinion is against attempts to cure morphinism in patients over sixty. The effects of sudden withdrawal are well illustrated in children who have been nursed by opium using mothers whose breasts have suddenly run dry. In these cases the children given other milk, become affected by severe opium marasmus, to arrest which opium in some form has to be given.

Opium, it must be remembered, is nearer than any other drug in chemical constitution to nerve tissue, and, furthermore, is one of the drugs which passes through the placenta, as careful analysis of the umbilical blood by Bureau and others has shown. The problem of gradual removal has much the same elements in a less intense form, as that of sudden withdrawal. There must be substituted some remedy which will take the place of opium in the general constitution of the patient and will as well reproduce normal metabolism, which is markedly affected in morphinism. The morphin user is always a victim of toxemia from arrested functions of the kidneys, liver and adrenals. To secure a proper substitute for the drug, attention must be paid to the functional activity of these organs. Here intestinal antiseptics, laxatives and cathartics come into play. Unless this toxemia receive attention, there is no good substitute for morphin. Even if opium diarrhea occur during

the reduction of the drug none the less should the antitoxemic treatment be employed.

Another great factor which merits attention is nervous excitement and insomnia. Here much benefit can be derived from cold sponging and certain hypnotics. Cold sponging relieves the tendency to internal congestion in a way that no other agent will. The patient should be placed with the feet in warm water and carefully sponged down the back of either side, so as to reach the spinal nerves, with cold water to which a small quantity of alcohol has been added. The same sponging should be done on the inner and outer aspects of the thighs so as to effect pelvic circulation through the sciatic and genitocrural nerves. Excessive starchy food should be forbidden and the proteids reduced in proportion to the amount of renal strain that exists. An excellent tonic and supportive drug during the withdrawal of morphin is strychnin nitrate in small doses frequently repeated (gr. 1/200) so as to secure a cumulative effect. The best hypnotics are a combination of sulphonal with a vegetable neurotic like conium, hyoscyamus, passiflora, etc. A good intestinal combination is that of creosote, oil of birch, pancreatin, inspissated ox gall, extract of colocynth compound and eserin nitrate. The sulphocarbolates are very beneficial also as an intestinal antiseptic. All coexisting conditions leading to the morphinism should be recognized and treated. Many symptoms charged to the withdrawal are really due to these conditions. It should be remembered that the morphinist very frequently does not desire to recover but seeks to secure sympathy in the methods familiar to the hysteric, but with even a meaner motive, that of sponging on friends.

It is absolutely essential in the successful treatment of morphinism to secure entire control of the patient and to protect him from himself. No person can treat himself successfully and the "home treatment" almost invariably fails. He should be placed in an institution under a new environment and a trained nurse should be in constant attendance. This surveillance should be continued long after the drug has been discontinued and the cessation of active treatment.

A morphin habitué is by no means cured when the drug is discontinued. The real physical and mental regeneration begins only when the morphin is stopped.

I am firmly convinced, after an extensive experience in the treatment of these cases, that one can by no means guarantee a permanent cure unless the patient is under the constant care and observation of the physician for at least six and better ten months. Any shorter time is very apt to be followed by relapse. The patient may feel well and strong in purpose, but after a few weeks or months, especially if he return to his business and old environment too soon, he will become restless and irritable. Between the man's inmost individuality and the world in which he lives, between his inmost self and the life that touches it, there is a gap. He feels isolated, lonely and apart from his fellows. The evenings find him tired. Physical and mental work weary him even more than usual. The emergencies of life seem to come with increasing

frequency and he has to force himself to sleep. He holds his eyes fast closed until he thinks an hour or two has passed, and opens them to find that perhaps two minutes have glided by. There is marked muscular delirium and it is impossible for him to lie still. He goes from bad to worse, struggling against the awful, indescribable craving for the drug he knows will bring him rest and peace. It seems to him that every day contains the heart of an eternity. And this condition of human agony continues, growing worse and worse day by day until the trembling, suffering, irresponsible fragment of a man gives up the fight and goes back to morphin.

This is a very, very common occurrence. How necessary it is then to gain the confidence of your patient and to tell him the truth. Tell him that he can be cured, but that it will take time, months of time. Explain to him the great danger of relapse under the various advertised "quick" and "home" cures. Each relapse renders a cure more difficult. The great majority of morphinists whom I have treated had been "the rounds," had tried dozens of rapid cures, but, unfortunately, in many instances they had not profited by their failures and wished to return to business a week or so after the withdrawal of the morphin. Despite their past experiences, they had unusual confidence in their strength and vigor, and believed that they would not relapse again. Such patients now resent further surveillance and assistance. This is particularly true of physicians, who by the way, are the most difficult people to handle.

In conclusion, I will briefly outline the general line of treatment I usually adopt. There is, however, no systematic, routine, specific treatment for this disease. The patient and not the disease, here, as in all cases, is first to be considered. I first ascertain the maximum dose and the total daily amount of the drug the patient is taking. Then I begin the gradual or more rapid withdrawal of the morphin, the method employed being governed entirely by the character of the case. Under no circumstances must the patient know the amount he is given at any stage of the treatment. If he is taking it hypodermically, I endeavor to abandon the use of the needle as soon as possible without detriment to the patient, substituting deodorized tincture of opium or codein in some vehicle, preferably non-alcoholic, which will completely disguise the taste of the opium. The patient is invariably encouraged when he can abandon the use of the hypodermic syringe. The opium in the mixture for internal use can be diminished as required. Free elimination by the bowels, skin and kidneys must be maintained. The urine should be frequently examined. This is necessary to ascertain the metabolic condition, but especially important after you have the patient off the morphin to ascertain if by any possible means he is surreptitiously taking the drug. This can be learned by testing the urine with Merck's neutral chlorid of iron. I have already mentioned some of the hypnotics employed when such drugs are necessary. Hypnotics should be changed frequently.

Hydrotherapy properly employed is invaluable. No case can be properly tested without it. Static electricity or electric baths are of great

value in some cases, but not in all. The immediate surroundings of the patient should be made as pleasing as possible. Food and medicine should be given in the most agreeable forms consistent with usefulness and the same kind of attention paid to every method of treatment employed.

Suggestion is a potent factor in the treatment of morphinism and the physician should employ it constantly and encourage his patient in every possible way. I wish to emphasize the great importance of having the patient stop the use of tobacco. I have sometimes felt that it was almost impossible to cure either opium or alcohol inebriety while the patient continued the use of tobacco. The weed should be given up entirely. It should never be resumed, for its resumption is often followed by relapse. During the treatment, care must be taken of the diet. Small quantities of food should be given at short intervals rather than full meals at stated hours. After the withdrawal of the morphin, the treatment should combine nerve and mental rest, tonics, diversion, and by all means, elimination, suggestion, encouragement, and close surveillance for some months. After this, the patient if possible, should travel, or at least not return at once to his old life and subject himself to all the strains and drains which brought on his former addictions, nor should the person of wealth return to habits of indolence and excess.

I am fully in accord with Crothers, who says, "The effort of many physicians to treat all persons alike by the same medicines or needle injections is empirical." Morphinism can be cured in the great majority of cases, if the physician can have the confidence and entire control of the patient, and have him in an institution where all the facilities for proper treatment are at hand, and provided he can keep the patient under observation a sufficient length of time, and will treat the patient, mentally and physically and not merely the disease, according to some routine method.

INTESTINAL DISORDERS OF CHILDHOOD ACCOMPANIED WITH DIARRHEA.*

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It may be well to define what we mean by diarrhea, at what stage interference becomes necessary, when the normal becomes abnormal, whether it is the number of movements, the character of the stools, the elevation of temperature, or the combined clinical picture of the whole. It is generally agreed that if children have over five movements in twenty-four hours, it may be considered that they are having diarrhea, but if they are having this number or less without fever or vomiting and the stools are fairly normal in character, that the condition is simply eliminative and is the result of either too much food, too frequent feeding, food too rich in composition, or food not suited to the age and development of the

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individual child, and that the correction of this error or the removal of the cause is all that is necessary for the relief of this class of cases. On the other hand, if the movements are frequent, running up to six, eight or more in twenty-four hours, with or without a rise of temperature, offensive in character, containing mucus, curds, or other undigested matter, it may be said that they are having diarrhea and that interference is necessary, but let us remember that diarrhea is a symptom and not a disease. It is an indication of a pathological condition, and that all diarrheas are eliminative in character.

Diarrheas may be divided into two general classes, primary and secondary, and it is with the former class that we will interest ourselves, simply mentioning some of the more common forms of secondary type, as those complicating or accompanying typhoid fever, measles, scarlet fever, pneumonia, tuberculosis and burns. While they are many times serious in character and determine the issue of the disease they complicate, their treatment does not differ sufficiently to require their special consideration. The term diarrhea covers all conditions attended with frequent loose evacuations of the bowels and is dependent upon increased peristalsis and secretion. The etiological factors common to all forms of diarrhea in children are age, food, surroundings, season, constitution and dentition. Of 3,000 cases collected by Dr. Crandall and reported by Holt, the ages were as follows: 14 per cent. were under 6 months old; 29 per cent., from 12 to 18 months; from 18 to 24 months, 24 per cent., and 16 per cent. were over 2 years. Of 1,500 children with diarrhea applying for treatment at the Jackson Park Sanitarium, the number ran a little lower for the first six months, 13.5 per cent., with 28 per cent. from 1 to 2 years old and 15.3 per cent. between 2 and 4 years old. These figures show an increased susceptibility to diarrhea in the very young and a diminished tendency as age advances. It would appear that some relation may exist between the marked susceptibility of the young to bowel trouble and the high mortality under 1 year of age. Of all the children born in the State of Illinois, about one-fifth die before they are 1 year old.

Feeding is probably the most potent factor in the production of diarrheal diseases of childhood. Of 1,943 fatal cases of diarrhea collected by Holt, less than 3 per cent. were exclusively breast fed. Howarth (*Lancet*, July 22) has investigated 8,348 cases, 63.3 per cent. of whom were hand fed, 19.6 per cent. partly hand fed, and only 17.3 per cent. breast fed exclusively. The mortality among the hand fed was nearly three times that of the exclusively breast fed and twice that of the mixed fed. The figures of Holt and Howarth are illustrative of the statistics from all sources, and all students of this subject agree that the highest immunity from diarrheal diseases is enjoyed by the wholly breast fed, and the next highest by those partially breast fed, while the most susceptible are the exclusively bottle-fed babies.

It is not artificial feeding, *per se*, that is the cause of the great mortality from bowel troubles in children, but the methods of feeding it, the quantity, the kinds and quality of the food. Most artificially-fed children

are overfed, both as to quantity and frequency of feeding. Bad mixtures are given them and they are fed every time they cry; fed four or five times from the same bottle without changing the contents or the nipple after the latter has been in the mother's mouth several times to test the temperature of the food, in addition to having been exposed to all the bacteria in the house, including urinary and fecal contamination.

The surroundings of a baby has its advantages and disadvantages. Living in vitiated air and filth lowers the constitution and lessens the powers of resistance, especially in hot weather. Diarrheal diseases are especially frequent in cities and among the poor, yet no location or apartment, however well appointed, can claim immunity from this disease. Vacher has shown that no constant relation exists between density of population and surroundings and diarrheal disorders. They are not essentially filth diseases, yet their frequency and severity are increased by want of cleanliness of the surroundings and person of a child, especially of the napkins of an infant.

Season undoubtedly has a marked influence on diarrhea of children, as the following figures will show. The average for the months of January, February, March, April and May for children under 5 years of age was 175 per month; for the months of June, July, August and September, 1,741 per month, while for the remaining three months of October, November and December the average was 352 per month, and October furnished more than half of this latter number. A minimum temperature of 60° F. for three successive days markedly increases the number of cases of bowel trouble.

It is not definitely known whether there is any direct thermic relation or whether it is the indirect influence of heat on the children, increasing their thirst, and thereby leading them to take more food than is good for them, or whether the heat renders them less able to digest what they take, or whether it is the influence of the heat on their food supply, increasing the contamination of especially milk, or whether it is of bacterial origin. Possibly it is the combination of all of these influences. Baginsky has shown that no constant relation exists between humidity and precipitation and diarrheal diseases. Children with feeble constitutions are more prone to bowel trouble than robust ones; also constitutions predisposed to tuberculosis, rickets, syphilis, marasmus and especially previous bad feeding. Diarrhea accompanying dentition is not normal, yet we can not deny that occasionally some relation seems to exist, as a case of mild type will clear up on the eruption of a tooth.

Diarrheas of children have been divided and subdivided into many varieties, but, as we see them clinically, it is many times as much, if not more, a matter of degree than kind. They are all eliminative in character and, with the exception of the purely nervous type, they are the result of an effort of Nature to relieve the system of offending material. The causes vary from a mechanical irritation to a profound toxemia, the result of decomposition of the contents of the alimentary canal, with bacterial activity. The process ordinarily begins as a gastric or a gastro-intestinal indigestion. It may be limited to either one for a time, but

sooner or later both are involved. It may commence as a slight deviation from the normal, increasing day by day until a large part of the canal is involved and the whole system poisoned from the daily absorption of toxic matter; or the onset may be sudden, from one feeding of an indigestible mixture or contaminated milk. Uncontrolled, the process increases and soon degenerative changes in the epithelium of the stomach and intestine ensue, desquamation of the epithelium of the mucous coats, a catarrhal inflammation, and the avenues for infection are open. If this occurs in a robust, well-nourished and well-developed child, Nature comes to the rescue with a hypersecretion of the alimentary fluids, an increased peristalsis, and a few loose movements occur, with or without vomiting. If this danger signal is heeded, serious trouble may be averted. If no attention is paid to Nature's call for help and more fuel is added to already kindled fire or—worse than no attention—a dose of some sedative or astringent is given, and Nature's effort perverted, deeper inroads are made and avenues of infection are established, and through this bacteria and their toxins make their entrance into the circulation. At this period one of two conditions may ensue: either acute gastroenteric intoxication as the result of bacterial fermentation, or a more subtle type, catarrhal in character, depending on the constitution, present and previous care and management of the child and the infection.. If the former condition (acute gastroenteric intoxication) or bacterial fermentation takes prestige, few gross lesions in the lumen of the stomach and intestine occur. The clinical appearances in these cases are greatly in excess of the post-mortem findings. With acute gastroenteric intoxication, vomiting may be an early and persistent symptom, or the stomach may remain quiet through the entire attack, depending largely upon the temperament of the child, the location of the trouble, and the character of the toxemia. The bowels become loose, three or four, or sometimes as many as ten or fifteen movements in twenty-four hours. The first few movements will contain undigested food, curds (if the child is taking milk), gray or green in color and very offensive. Later they contain mucus and sometimes streaks of blood. The temperature ranges from 101° to 106° F. The pulse at first is full and bounding, but becomes weak and rapid. Child is restless, cries for water and, if given it, will drink it ravenously and vomit it up immediately. If food is taken, it is more for the fluid than the nourishment it contains. In a few of these cases, the bowels may be constipated, probably from some peculiar action of the toxins paralyzing the reflexes, either peripheral or central, and preventing their normal eliminative activity. In this event the true nature of the case is very much more difficult to recognize. Vomiting is much more persistent; in many cases nothing will be retained in the stomach for a number of days. Even ice will be vomited as soon as it is melted.

Ingrafted on to this gastroenteric intoxication or concomitant with it may be a condition much more alarming in appearance and much graver in character, the so-called cholera infantum type of diarrhea. The first stools contain food, if any has been taken, are green in color, soon becoming yellow or brownish, acid in reaction and slightly offensive. Very

soon they become mucous or serous, or they may contain serum only, odorless and neutral or alkaline in reaction. The temperature runs up rapidly to 103°, sometimes to 106° or 108° F. The pulse is weak and rapid, features sharpened and blanched, eyes sunken, with an anxious expression, mouth drawn, fontanels sunken, sphincter relaxed and involuntary movements occur, or the voluntary ones may run up to twenty or thirty in twenty-four hours. Vomiting is persistent if anything is swallowed, and sometimes it will occur when nothing has been taken. The face and forehead are often covered with perspiration. The child is restless, moans or cries most of the time and loses weight rapidly, sometimes two to three pounds a day. Usually this condition is traceable to some external cause, as feeding contaminated milk, rather than to a toxemia generated in the body, or it may be from tyrotoxin in the milk (Vaughn). The gross lesion in this form of diarrhea is much more marked in appearance than in the gastroenteric intoxication.

After the first explosion, in a number of these cases, they run a milder course and recovery is fairly rapid. In the other form, the catarrhal variety, the onset is mild, the temperature ranging from 99° to 102° F., with a slight diarrhea for the first few days, which gradually increases in severity, two to five movements a day, of a dark brown or greenish color, containing much mucus; some of them may be partly fecal and partly mucous, and some will contain only mucus streaked with blood; usually a good deal of straining at the time of the movement. Vomiting is not a constant feature, but may occur once or twice a day in the early stages, and may be easily excited at any stage of the disease by errors in diet or medication. The abdomen is usually distended with gas and considerable pain is complained of. The appetite is poor and the child loses flesh; the tongue is coated; later it is dry, with parched lips. This condition is designated clinically as ileocolitis, and is spoken of in the books as acute, ulcerative, chronic and membranous, but clinically it is difficult to distinguish between them in all cases. Many times one form merges into another so gradually that one does not know where to draw the line between the different varieties or forms of the disease. In these cases, more extended areas of the mucous membrane are involved in a catarrhal inflammation, especially the colon and lower ileum, although a large portion of the small intestine, the stomach and considerable of the colon may be involved in any case. Following the catarrhal desquamation of the epithelium, small ulcerative patches involve the mucosa, the submucosa and down to the muscular layer; the blood vessels are engorged and slight hemorrhages occur, showing in the stools. As the disease spreads, larger areas of the superficial epithelium are lost, the tubular glands become enlarged and loosened; Peyers patches sometimes become enlarged; many small ulcers coalesce and form one or more large ones, irregular in outline and ragged in appearance. In other parts the lymph nodules are much enlarged, giving an elevated appearance to the surface, and later break down in deep ulceration involving the mucosa and submucosa. At this period they have assumed the subacute or chronic form and are the cases that run a protracted course and recover only after the cool

weather comes to our aid, or succumb finally to the disease or some intercurrent disease, of which the most common is pneumonia. If recovery takes place (and it does in a goodly number), reparative process is set up in the form of a fibrinous exudate and the ulcerative places are filled in with scar tissue that may be followed with a chronic diarrhea or a troublesome constipation.

The membranous form is the most grave of the intestinal inflammations of children and resembles the catarrhal variety. It begins abruptly, with temperature ranging from 102 to 106; vomiting is likely to occur for the first twenty-four hours, but is the exception after that. The abdomen is swollen and tender; movements resemble those of the catarrhal variety, but contain more blood and shreds of membrane, and sometimes patches of membrane can be seen protruding from the rectum. If the stools are washed with water, the membrane may be seen in small, gray, opaque patches.

Amebic colitis is very rare in children in this climate, and I have only seen one case in which the diagnosis was verified by the microscope. This is the only method of making an absolute diagnosis. This form occurs mostly in warm climates.

The bacteriologic findings in the diarrheas of children have not enabled us yet to classify the cases as we hope to when more data has accumulated.

Of 30 cases of diarrhea studied by me in the past two summers, in the bowel movements I found diplococcus in 50 per cent.; micrococcus, 44 per cent.; streptococcus, 40 per cent.; pneumococcus, 60 per cent.; mycoides, 15 per cent.; yeast, 66 per cent.; sarcina, 42 per cent.; thrush, 15 per cent.; pus, 38 per cent.; crystals, 30 per cent.; bacilli (colon), 72 per cent.; bacilli (unidentified), 60 per cent.

From the Mouth.—Bacilli, 92 per cent.; mycoides, 15 per cent.; cocci, 98 per cent.; micrococcus, 66 per cent.; diplococcus,; 96 per cent.; streptococcus, 67 per cent.; pneumococcus, 33 per cent.; yeast, 49 per cent.; thrush, 15 per cent.

I had hoped in these cases to establish some relation between mouth infections and bowel disturbance, but so far have not been able to arrive at any definite conclusions. It will be remembered that Booker, in 1897, made the statement that no single micro-organism is found to be the specific exciter of diarrhea, but the affection is generally to be attributed to the result of the activity of a number of varieties of bacteria. While, generally speaking, the statement is undoubtedly true, however, it does seem possibly and probably true that some of the well-known pathogenic organisms, such as the typhoid bacillus, pneumococcus and streptococcus, gain entrance to the general circulation through lesions in the gastrointestinal tract and give rise to septicemia and are the immediate cause of death; that these atria of infection are produced by the local action of less toxic micro-organisms, such as staphylococcus, colon bacillus, yeasts and thrush fungus, and that the toxins which are generated by the saprophytic action of all of the micro-organisms in the intestines tend both

to lower the resistance of the child and to mask the symptoms of the specific intoxication.

The gross appearance of blood in the stools should always be corroborated by a microscopic and bacteriologic examination. This precautionary statement is made as a result of findings in two cases of my series of thirty, in which hemorrhages were reported and no blood was found after repeated microscopical investigations, but instead a bacilli was isolated (probably of the colon group) that produced a pigment in such quantities and with such striking resemblance that it was impossible to distinguish it from blood by the unaided eye.

The etiology of diarrhea in children can, for the most part, be summed up in three words—bad care, bad food, and a continued high temperature. The treatment can be divided into two parts, the prophylactic and the remedial, and the prophylactic into hygienic and dietetic. The hygienic consists of domiciliar and personal cleanliness, living in the open air and out of the crowded parts of the cities, especially during the hot months and when the disease is epidemic. Of all the prophylactic means, maternal feeding is the most valuable. This statement is verified by Holt's statistics in which he states that only 3 per cent. of his 1,943 fatal cases was breast fed. During the siege of Paris, the mortality of young children was 50 per cent. less than its normal status, notwithstanding the great deprivations that mothers and children were subjected to. They were all obliged to nurse their babies. It is the natural food. Every animal secretes a milk best adapted to its offspring, that contains its own enzyme, that aids in its digestion and assimilation. It is received sterile, at the right temperature, with an automatic alarm that regulates the supply and demand. If it is impossible or impracticable to nurse a child, then it becomes our duty to select a food, and, without discussing the various foods and methods of feeding, a few general objects to be attained may be mentioned.

First. A food must contain the five elements necessary to a perfect food, in proportions that it can be assimilated and will nourish and develop the whole body, and is attainable by all. I believe it is generally agreed that cows' milk comes the nearest filling these requirements. While it differs in some features from mothers' milk, it is like mothers' milk in being a whole food and carries with it its own enzymotic properties, and by a rearrangement of its different elements, it can be made to serve in more cases than any other one food, or probably all the other foods. In rearranging the different component parts, one must have in mind their different properties and what he wants to attain. We know the hydro-carbonates and fats are, as a rule, more easy of assimilation and furnish ready heat and fat producing properties to the body, and there is too great a tendency to put a baby on them to the exclusion of the proteids. It is the proteids that furnish the cell growth, replace nitrogenous waste and form a resistance to the muscular coats of the stomach, thus developing it into a digestive apparatus instead of a bag or sack which we so frequently find in condensed milk and other proprietary food fed babies.

The value of the proteids in milk is very well illustrated by the following comparative table:

	Time weight is doubled.	Proteids.
Human	180 days.	1.5 per cent.
Horses	60 days.	2 per cent.
Calves	47 days.	3.5 per cent.
Goats	19 days.	4.3 per cent.
Pigs	18 days.	5.9 per cent.
Sheep	10 days.	6.5 per cent.
Cats	9 days.	7 per cent.
Dogs	8 days	7.3 per cent.
Rabbits	7 days.	10.4 per cent.

This table clearly points to the fact that milk is our sheet anchor, and as near whole milk as can be digested should be fed.

DIAGNOSIS.

The principal value of a differential diagnosis in these cases is the aid it may give us in the treatment. In the catarrhal forms the onset as a rule is more gradual, with frequent small movements containing large quantities of mucus and blood. Tenesmus is more likely to accompany the movements in this form than in the fermentative types. In the fermentative diarrheas the onset is sudden, with high temperature, large offensive movements that do not excoriate, and vomiting is a frequent accompaniment. Cholera infantum is usually preceded two or three days by a fermentative diarrhea of a mild type. The onset is sudden, with high temperature, continuous vomiting, large, frequent movements containing at first mucus, and then serum; acid reaction in the beginning, and then becomes alkaline, great thirst, high rectal and low surface temperature, sunken fontanels, pinched appearance, dry mouth and throat, forehead and face covered with cold perspiration, rapid loss of weight.

In the membranous type the onset is sudden, with a medium high temperature, small but less frequent movements, an early show of blood and shreds of membrane in the stools. The amebic form of diarrhea is rare in northern climates and differs so little in its clinical appearance from ileo colitis. The onset may be gradual, but it is usually sudden and is very likely to run a protracted course of two or three months, followed by abscesses in the liver. The only positive proof of its existence is the finding of amebic coli in the stools.

The treatment of these disorders may be divided into three parts—hygienic, dietic and medical. The general hygienic care of these cases consists in domiciliar and personal cleanliness, both inside and out. Plenty of sunlight and 700 to 1,000 cubic feet of air space should be allowed for the patient and each person necessary for his welfare and comfort, and this should be constantly changed. Patients should be bathed all over every day and as much of them as is necessary after each bowel movement or urination. Napkins should be changed as soon as soiled and removed from the room and immersed in an antiseptic solution sufficiently strong to be germicidal in power. Their mouths should be washed with sterile water or a sterile solution of boric acid before each nursing. If the baby is breast fed, the nipple and any part of the breast that the child's mouth comes in contact with should be washed with

sterile water before each feeding. If fed from a bottle, both the nipple and bottle should be washed with a brush inside and out and boiled or steamed after each feeding, and kept immersed in a 10 per cent. solution of soda water when not in use. All nourishment should be practically sterile. The nurse or attendant should not be allowed to feed or handle the baby after changing or handling a soiled napkin until she has thoroughly washed her hands.

The dietetic treatment should consist in giving only such food as is easy of digestion, readily absorbed and adapted to the age and condition of the patient in composition and character. The medical and mechanical treatment in general of the intestinal disorders of children accompanied with diarrhea, consists in thoroughly emptying the alimentary canal, either by a large dose of castor oil, moderate doses of calomel, or with some of the saline group, and irrigating the colon with sterile water, normal salt, a 10 per cent. solution of boric acid, borax or bicarbonate of soda, and putting the child to rest.

The specific treatment of a catarrhal inflammation of the canal, as an entero-colitis or an ileo-colitis, is best accomplished in the acute stage by first withholding all food for the first twenty-four hours and emptying the stomach and bowels with cathartics, irrigation, and if vomiting is persistent, lavage may be resorted to. This latter measure is seldom necessary and not easily accomplished in children over two years old. Usually large draughts of water given by mouth will do this for us. Then to soothe the irritated and inflamed mucous membrane, large doses of bismuth, alkalies in the form of lime water in milk, when the latter is allowed, may be given. Small doses of opium may be given in the form of paregoric or deodorized tincture of opium for this purpose and to regulate peristalsis and for the relief of pain and tenesmus, but under no condition should any preparation of opium be given until the stomach and bowels are thoroughly emptied. If much blood is being passed, astringent injections may be resorted to in the form of aqua solution of tannic acid, or if tenesmus is a persistent feature, starch and opium injections can be given, or suppositories containing some sedative and astringent.

As soon as possible the bland foods attainable should be commenced, as meat broths, albumen water, and even some of the proprietary concentrated foods may be given, withholding all medication as soon as the conditions for which it was given have ceased to exist, and gradually returning to the food best adapted to the age and condition of the patient.

In the fermentative form of gastro-enteric intoxication, the treatment must be directed against a decomposing and toxic mass that is being absorbed and poisoning the whole system, rather than against an inflammation of the bowels, although the latter condition may exist. Stop all food for at least twenty-four hours, clear the stomach and small intestines with large doses of castor oil and flush the colon with copious enemas of normal salt solution. A long rectal tube should be used and two or three injections should be given every twenty-four hours until all evidence of decomposition ceases. The castor oil should be followed with

small doses of calomel and ipecac continued until the characteristic green, odorless, calomel discharges are produced. If the temperature runs high, as it may for the first twenty-four to forty-eight hours, the patient may be sponged or immersed in tepid water and an ice bag kept to the head. If the extremities are cold, a hot water bag or warm flannels should be used to keep them warm. After the first twenty-four hours, light feeding may be commenced, but only such food as is really absorbed and does not furnish a good culture media should be given. Sterile meat broths, egg water and the concentrated proprietary foods, followed by some well cooked hydro-carbonates, and finally milk. Astringents are almost never necessary in this class of cases and sedatives in the form of paregoric may be given to control excessive peristalsis, after all evidences of toxemia have disappeared.

In cholera infantum, we are dealing with a profound toxemia—in many cases almost continuous vomiting and bowel movements, with a tendency to a dangerous concentration of the body fluids. The toxins are acting on the vasomotor system and paralyzing the heart muscles. The ordinary medication seems to be less valuable in these cases than in the other forms of diarrhea, and as we have no specific, the best we can do is to aid nature in her efforts to overcome the disease.

All the rules of hygienic and dietetic management already given are applicable in this form of bowel trouble. The irritability of the stomach usually prevents the internal administration of medicines by the mouth. To keep up the body fluids is our first duty. This is best accomplished by copious rectal injections of an alkaline solution to neutralize the acid intoxication and put at the disposal of the system a fluid to replace the great waste consequent upon the choloreaform discharges. The temperature can best be controlled by wet packs, immersion, or an ice cap. Excessive waste is best controlled by hypodermatic use of morphin and atropin. (For a child one year old, 1/100 grain of morphin and 1/600 grain of atropin, repeated every hour or two until the result is obtained.) Morphin also furnishes a ready heart stimulant in these cases, as it does in all forms of shock. Injections under the skin of normal salt solution are of great value. From one-half to one pint twice in twenty-four hours may be given. Stimulants, champagne, brandy and coffee may be given by mouth as soon as they can be retained. As soon as the first explosion is over, small quantities of sterile food may be tried, but great care must be exercised less a relapse is brought on. These cases require watching for months, as there is a great tendency to relapse, and milk should be withheld until convalescence is well established.

The only internal medication that seems to be of any especial value is the very dilute alkalies in the form of alkaline water as lime water, bicarbonate and salicylate of soda.

The treatment of the membranous form of diarrhea does not materially differ from the catarrhal form except the earlier administration of anodynes to control the pain and sedatives and astringents for the hemorrhage. If the disease becomes sub-acute or chronic, the iodids in some easily administrable form act well.

The only specific treatment for the amebic dysentery is the injection of an aqueous or oleaginous solution of quinin. With the marked tendency of these parasites to burrow and produce deep shelving ulcerations in the mucous membrane, they are very difficult to dislodge.

SOME FURTHER OBSERVATIONS ON THE USES OF CITRATE OF SODA IN INFANT FEEDING.*

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This paper is a supplementary report of twenty cases fed by the addition of citrate of soda to cow's milk, plain and diluted. This method of feeding was originated by Prof. A. E. Wright, who published in the *Lancet* a paper entitled "The Possible Advantages of Employing Decalcified Milk in the Feeding of Infants and Invalids." Previous to this, Arthus and Pages had demonstrated that when cow's milk was treated by oxalates and fluorides it did not curd with rennet in so heavy a curd, because of the precipitation of the lime salts; but if, on the other hand, lime salts were added to the milk the clot formed by the rennet was of a denser curd than usual. Professor Wright applied this principle to the question of infant feeding, pointing out that the oxalates and fluorides were poisonous salts and suggested the use of citrate of soda. Dr. Poynton followed up Dr. Wright's suggestion and has used, for the past three years, citrate of soda in addition to cow's milk in the feeding of infants at the Great Ormonde Street Hospital for Sick Children, where I followed, with him, its use during the year of 1904. I have used it in all of my infant-feeding cases, both in private and dispensary practice since that time.

The method of using citrate of soda is the simple addition to cow's milk, plain or diluted, of one or two grains of citrate of soda to the ounce of milk used. The dilution of milk used is that of equal parts of milk and water, or two parts of milk and one of water. In our experience, it has never been necessary to use less than an equal dilution of milk and water. We begin by using equal parts of milk and water in all the cases whether the child be one day or one year of age. To this we add one grain of citrate of soda to the ounce of milk. It is sometimes necessary to use two grains of the citrate to the ounce of milk in cases where the milk dyspepsia continues with curds in the stools. It is seldom necessary to continue the use of the two grains to the ounce for more than a week or two. In cases which do well with one grain of citrate of soda to the ounce of milk diluted with equal quantity of water we soon increase the strength of the milk, changing to that of two parts of milk to one of water. This strength of milk we use only for so long a time as is necessary in each case, then putting the child on whole milk. The use of whole milk is commenced seemingly very early to one accustomed to the use of per-

* Read before the Chicago Pediatric Society, April, 1906.

centage modified milk. Professor Wright puts his children at two weeks of age upon whole milk. Personally, it has not seemed to me of any special advantage to put children upon whole milk so early, although I have fed several of the newborn babies in this manner, giving them whole milk by the end of the second week. In these children the growth has been rapid, no dyspepsia has developed and they were altogether satisfactory. That there is no contraindication for the use of whole milk at this time, when the child is capable of its digestion, I am convinced. In children whose digestion is such that they can not take whole milk, we have not persisted in their taking it, even toward the end of the first year of life. In a few cases at ten and eleven months the infants are using two parts milk and one of water.

In using citrate of soda, we have been extremists. We have not used it with any other method as percentage modified milk, whey or cream mixtures, but have adhered strictly to cow's milk, plain and diluted. We are enthusiastic as to its benefits, especially in dispensary practice, where one must deal with low mental capabilities and often with mothers who do not know the English language. The simplicity of the method, the ease of adaptation, the cheapness, and the inherent faith of the mother in the teaspoonful of medicine added to each of the baby feedings, are a few of the special advantages of this method. On account of the ready solubility of citrate of soda, we prescribe as many grains to the dram as we are giving ounces of milk to the child, giving a large enough mixture to last about a week. For example, an infant that is taking milk ℥ iv, water ℥ ii, citrate of soda gr. iv, six feedings each twenty-four hours, is given a prescription for:

℞. Sodii citras.....gr. xcii
Aquæ chloroformi.....m. x
Aquæ destillate .....℥vi
M. et Sig.: One teaspoonful to be put in each feeding.

We find that there is a possibility of a fungoid the same as in dilute bromid solutions, and for this reason we add the small amount of chloroform water.

The following twenty cases have been taken from the cases seen since my last report of cases of infants fed by this method:

Case 1.—Aged 5 months. Child was brought to dispensary because of diarrhea; was restless and irritable; eructations of gas frequent; bowel movements green, watery and of a foul odor; abdomen distended, tympanitic; typical facies senilis; temperature, 102° F.; weight, 7 pounds; birth weight, 7½ pounds. Diagnosis, marasmus. Treatment: Calomel, gr. 1/10 each hour for six doses; gruel water for twenty-four hours; then was put on milk and water, each, one ounce, with one grain of citrate of soda. This, a most hopeless case, improved from the beginning of the treatment, the increase in weight being constant. In the first ten days there was a net gain of one pound.

Case 2.—A newborn baby, who, on account of deformed nipples in the mother, was put upon artificial feeding from birth. The birth weight,

7½ pounds. For the first week baby was given milk and water, each, one ounce, citrate of soda, one grain, every two hours during the day and twice during the night. The second week the baby was put on milk, two ounces; water, one ounce; sodium citrate, two grains. At the beginning of the third week the child was put on whole milk. The baby is now 6 months of age, weight 16 pounds, has had no attacks of indigestion and, in so far as can be seen, the development is normal.

Case 3.—Child 6 months of age. One week ago child developed an acute diarrhea, with rapid loss of weight; bowel movements, 10 to 12 a day, green, watery and offensive. Treatment: Calomel, one-tenth of a grain, every hour for six doses, followed by a dram of castor oil, with colonic flushings twice each day. Diet of albumin water for forty-eight hours. On the third day patient was given two feedings of milk and water, each, two ounces; sodium citrate, two grains. On the fourth day four feedings of this mixture were given, and on the fifth day regular feedings were given. The amount of each feeding was gradually increased, and on the tenth day patient was taking milk, four ounces; water, two ounces; citrate, four grains. On the seventeenth day patient had regained her maximum weight and was put upon whole milk, six ounces; sodium citrate, four grains. This was continued for a month, when the citrate of soda was diminished to three grains. This amount continued for two months, when the citrate was discontinued.

Case 4.—Four months of age, breast fed six weeks, then put upon condensed milk; child was brought for diarrhea and vomiting; had had twelve bowel movements the previous day, green, watery and offensive. Treatment: The initial treatment, calomel and gruel water, was given for the first twenty-four hours, then milk and water, each, two ounces; sodium citrate, two grains. Third day was improved; no vomiting; seventh day discharged and put on a diet of milk, three ounces; water, one and one-half ounces; sodium citrate, three grains.

Case 5.—Six weeks of age; diet, cow's milk, diluted with equal quantity of water; bowel movements green, watery, foul and at times streaked with blood; colic; vomited curds after each feeding; was fed three ounces of the mixture every two hours. After the routine initial treatment for the first twenty-four hours, patient was put on milk and water, each, one ounce; sodium citrate, two grains. Vomiting ceased; bowel movements, two or three each day, of good color and consistency. At the end of the first week the quantity and percentage was increased to milk, two and one-half ounces; water, one ounce; citrate of soda, three grains. Child had a net gain in fourteen days of two pounds.

Case 6.—Age, 10 months; birth weight, 6½ pounds; breast fed 8½ months; persistently constipated for the past six weeks; has been given an egg morning and evening, with two feedings of cow's milk between each twenty-four hours; is brought for diarrhea and vomiting. Child is poorly nourished; weight, but 11 pounds. Treatment: Initial treatment of calomel and gruel water; the third day was put on milk and water, each, four ounces; sodium citrate, four grains. On the seventh

day, temperature, 104° F.; diarrhea; weight, 11 pounds and 4 ounces. The citrate of soda was increased to eight grains. Tenth day child improved, no temperature; seventeenth day, weight 12 pounds; the diet increased to milk, four ounces; water, three ounces; citrate of soda, four grains. The twenty-fourth day citrate of soda was reduced to four grains.

Case 7.—Child, aged 5 months. Diet, proprietary food, condensed milk, etc. Weight at birth, 7½ pounds; bowel movements constipated, light colored, hard. *Status præsens:* extremely emaciated, apathetic, skin dry and cool, hangs in loose folds on limbs; temperature, 97.10° F.; weight, 6½ pounds. Treatment: Calomel, one-tenth of a grain; ipecac, one-sixteenth of a grain; bicarbonate of soda, one-half grain, one to be taken every six hours; colonic flush of normal salt solution twice a day. Diet, milk and water, each, one ounce; sodium citrate, one grain, every three hours, with albumin water *ad lib.* Third day improved; weight the same. Tenth day improved; weight the same. Increased diet to milk, three ounces; water two ounces; sodium citrate, two grains. Eleventh day improved; weight, 6¾ pounds. Increased diet to milk, three ounces; water, two ounces; citrate, three grains. Twenty-fourth day improved; weight, 6¾ pounds; bowel movements normal in frequency and color. Thirty-first day improved; weight, 7¾ pounds. Diet increased to milk, four ounces; water, two ounces; sodium citrate, four grains, every three hours. This was an early summer case, and the child did not have an acute attack of indigestion during the hot weather, but made rather a constant growth.

Case 8.—Aged 4 months; weight 7 pounds and 12 ounces; breast fed; child has lost weight for past two months; no diarrhea or vomiting; mother's milk analysis shows fat 4, albumin 1.5, sugar 6.5. After an unsuccessful attempt to modify the mother's milk so the baby could thrive upon it, child was taken from the breast and put on milk, two ounces; water, one ounce; citrate of soda, two grains. The third day child improved; facies better; less restless. Tenth day improvement; weight, 8 pounds and 5 ounces; bowel movements hard and pasty. This case developed constipation, which was overcome by the use of olive oil in dram doses given at night.

Case 9.—Child, aged 5 months. Diet malted milk. For past week child has refused food. Mother brings her for advice as to what to feed child. Bowel movements normal; weight, 8½ pounds. Treatment, milk and water, each, two ounces; sodium citrate, two grains, every three hours. Fourth day improved. Thirty-second day weight 11 pounds.

Case 10.—Child, aged 10 months, bottle fed with modified certified milk. Weight at birth, 8 pounds; present weight, 13¾ pounds. Bowel movement yellow, frequent and pasty. Treatment, milk and water, each, eight ounces; sodium citrate, eight grains. Increase in weight was immediate and constant, making a gain of 6 to 12 ounces each week. At the end of the first month patient was taking whole milk with citrate of soda, one grain to the ounce. By the end of the second month child was taken off citrate of soda, the mother using it after this at any time the child devloped any indigestion.

CASE 11.—Child, 7 months of age, breast fed until three days ago, when it was put upon cow's milk; child developed diarrhea and vomiting. Treatment: After the initial twenty-four hours' treatment child was given milk and water, each, four ounces; sodium citrate, four grains. Third day improved; no vomiting; bowel movements, four or five a day, good color and odor. Seventh day improved; bowel movements, three a day; diet increased to milk, six ounces; water, two ounces; citrate of soda, six grains.

CASE 12.—Child, 10 months of age, breast fed four months, was then given proprietary foods. Birth weight, 8 pounds. Is said to have weighed 14 pounds at 4 months. The weight remained about stationary until the beginning of the past month, when she developed a severe gastro-enteritis with a rapid loss of weight. The physical examination shows child has four teeth, is apathetic, rachitic rosary, enlargement of ends of all long bones, emaciation extreme, weight 7 pounds, temperature 97.2. Treatment: Stopped all food for twenty-four hours, artificial heat applied. Bowels flushed with normal salt solution every six hours. After the first twenty-four hours was given rice water with the white of one egg a day for two days. Then was added milk and water, each, one ounce; sodium citrate, one grain; two feedings a day. The number and amount of feedings was gradually increased, and at the end of the second week the diet was milk, six ounces; water, three ounces; sodium citrate, six grains. The amount of milk was then gradually increased as the digestion improved. The citrate of soda could not be dispensed with until the child was 14 months of age.

CASE 13.—Eleven months of age, breast fed ten months, when it was weaned and put upon boiled whole milk. During the past two weeks developed a diarrhea, with ten or twelve bowel movements a day. Treatment: After the first twenty-four hours child was put upon milk and water, each, four ounces; citrate of soda, four grains, every four hours. Seventh day diet increased to milk, six ounces; water, three ounces; sodium citrate, six grains. Fourteenth day child was put on whole milk with citrate of soda, one grain to the ounce.

CASE 14.—Child, 10 months of age; fat, flabby baby; weight, 16 pounds. The diet was practically an exclusive oatmeal gruel one. The mother gave a history of the child's inability to digest either human or cow's milk. This case was put upon equal parts of milk and water with two grains of citrate of soda to the ounce of milk. After the first few days the child could digest this food. By the end of the second week the sodium citrate was diminished to one grain to the ounce of milk. This child had always been persistently constipated, the mother frequently giving three or four teaspoonfuls of castoria to bring about a bowel movement. Upon the diet of the cow's milk with the addition of citrate of soda, the constipation was relieved. This child is now 16 months of age. When the citrate of soda is not given, constipation develops so that it is still necessary to add the citrate of soda to the milk.

CASE 15.—Baby, 6 weeks of age, breast fed. This patient is brought

on account of vomiting of curds after each breast feeding. Treatment: A prescription was given the mother containing two grains of citrate of soda to the dram of water, with instructions to give the child one teaspoonful of the medicine after each feeding. This diminished the curds both as to size and amount vomited.

CASE 16.—Fourteen months of age; diet proprietary food. This child has never been able to digest cow's milk in any dilution. Patient was put on milk, six ounces; water, six ounces; sodium citrate, six grains, one feeding a day, this with varying success for about two weeks. After this time the number of feedings was gradually increased, and at the end of eight weeks child was taking whole milk, citrate of soda, grains one to the ounce as the regular diet.

CASE 17.—Eight months of age, breast fed, was weaned and put on milk, six ounces, water, three ounces; citrate of soda, six grains.

CASE 18.—Five months of age, breast fed. Is given a supplementary feeding of milk, five ounces; citrate of soda, five grains, two feedings a day.

CASE 19.—Child, six months of age, breast fed, weaned to cow's milk, six ounces; citrate of soda, six grains.

CASE 20.—Child, 3 months of age, breast fed, weaned on account of acute illness in the mother; put on milk, three ounces; water, one ounce; citrate of soda, three grains.

These cases were all brought for medical attention. Most of them were sick babies when first seen. In our treatment of these cases we have used the regular treatment for clearing up the acute disorder with which the patients were suffering. We have not used the sodium citrate with milk in our cases of milk dyspepsia any earlier than we should have put them on to a percentage modified milk had we been using that method. We have put all patients coming under our observation under this method of feeding. Now after the use of this diet for the past three years we are ready to give it our unqualified indorsement as the most satisfactory and successful method of artificial infant feeding. Every child has taken and could digest milk with the addition of citrate of soda. These patients were all weighed every week and show a higher growth rate and so far as we can determine a normal development. In most of the cases there is an increase in the amount of urine excreted. In the cases where it was necessary to give a higher proportion of sodium citrate than one grain to the ounce, there frequently was developed an increase in perspiration which disappeared when the citrate was diminished to one grain to the ounce. Constipation is a factor in the cases fed by this method as it is in most methods of feeding. In these cases the constipation could usually be relieved by a dram dose of olive oil each night. We do not claim for this method of feeding that it is the only way nor is it a cure-all, but of this we are convinced, that it is a valuable acquisition to our feeding of infants. That it is especially of value in dispensary practice where one has to contend with many disadvantages. Its simplicity, cheapness and ease of administration allows us to prescribe it in

all cases. Of the advantages of this method of feeding it certainly renders the curd of cow's milk finer and more easily digested, we keep better in touch with our patients, having the child brought for medicine once each week, when the child is weighed and we can get the mother's report of the child's progress.

THE SOCIOLOGIC DUTY OF A MEDICAL SOCIETY TO ITS MEMBERS.*

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There are so many sociologic medical questions of great importance for the medical societies to consider that one wonders often not where to begin, but that the beginning should be so late. Until within a few years medical societies have consisted chiefly of a certain number of the older members of the profession. The young man, if he joined at all, sat in the rear seats at the meeting to be seen but not heard, except in rare instances when preluded by a timid apology for his temerity he joined in the discussion. The older members of such a society were usually very busy with their large consultation practices. Original work was almost entirely unknown and what little was done was usually done by a zealous few, among the younger men still without incumbrance, the vast majority of the general practitioners being handicapped by having neither laboratories, means nor encouragement.

To-day the medical societies invite all to join and ask every member to present his observations and ideas; his remarks in discussion are courted; he is expected to become an active, ethical society member and to remain so unto his life's end.

It is continually impressed upon him and with truth that all through the years of practice after college the medical society is of the utmost necessity for professional attrition and consultation with younger, contemporary and older members. It is the place where all unite to freely discuss and compare experiences; in a word, to hear the different interpretations of the meaning of the often occult medical sentences and become acquainted with a larger number of authorities than it would be possible to do alone; for to study medicine by college lectures alone is much like attempting to translate literally the idioms of a foreign language. Besides the scientific papers and discussions, the societies have given much careful attention to public hygiene and legislation; an attempt has also been made to educate the masses to understand better modern prophylactic medicine; also much consideration has been given to combating the harm caused by the so-called proprietary medicines, as well as many other things of general benefit to the community at large, always with altruistic disregard of their own individual interests.

* Read before the North Side Branch of the Chicago Medical Society, Oct. 11, 1906.

While the medical societies do all this for the public, there is also much opportunity to strengthen and advance this good work by better caring for the welfare of their own members beyond just the simple advice that the doctor should always be ethically patient and thoroughly imbued with the spirit of scientific altruism.

When we begin to discuss altruism, we must first ask why this term is so frequently used, especially by our medical societies which, though they have done much for science and the public, sociologically, have done little to protect their own members. Nothing begets altruism so much as a knowledge of the preservation of one's own rights. Are there not sociologic duties and needs of our members which, if cared for properly by the medical society, would allow you much more leisure for scientific study, for self-improvement, for altruism? Let us review some of the conditions which at present prevail. Neither state, county nor city (with their vast riches) do anything for medical advancement beyond paying the board of a few poor patients to whom it expects an already overburdened (tax-paying) medical profession to extend free treatment. Most of the advantages such patients might be in the way of study, research or teaching are so curtailed by the layman that certain bodies of the profession are forced to unite to maintain hospitals and dispensaries at their own expense for college teaching and improvement purposes. Even some of the pay hospitals advertise room at $15 to $40 weekly, special nurse for an extra $25, with the added inducement of medical and surgical and obstetrical attendance by the staff free. These same hospitals beg openly for donations from wealthy members of the community and demand to go tax free because of their charity beds. It is certainly conceded that, in some of our large cities, 50 per cent. of the total population take advantage of free treatment. The independently well-to-do (who could pay cash) push out the worthy poor, thereby giving us not only an inferior teaching material, but demoralizing those who can and should pay and depriving many of those with no means to pay, of the free help that should be theirs. One among many instances of the above was the wife of a Chicago business man whose estimated wealth is at least $250,000 receiving free dispensary treatment. Besides the regularly accredited institutions, there are many irregular ones, e. g., club dispensaries, vibratory institutes (many barber shops even doing the latter work for uremic and other headaches), etc., whose license to exist legally and morally is very questionable, to say nothing of preying upon a credulous public. These places need investigation and many should be suppressed. Before leaving the subject it might be well to mention that there are probably many unlicensed practitioners and midwives. The unlicensed should be routed out and the licensed midwives should be properly registered and published and kept track of, and re-registered if the name is changed.

I am sorry to say that some of our college teachers and others have student friends and nurses who give anesthetics and do other illegal graduate work, the fees for which really should go to a licensed practi-

tioner only. If to beg on the street, asking alms, is against the law, to receive free treatment (in hospital or dispensary), for which one can well afford to pay, is both legally and morally wrong.

While worthy lay objects of charity, begging a few much-needed dollars, are rigidly and humiliatingly investigated by the Bureau of Charities, people well able to pay, beg openly for free hospital and dispensary treatment, board, lodging and washing and are often never questioned. The foregoing charity medical treatment is only a tithe to that done willingly, "free gratis," by each and every member of the profession in his daily rounds by making necessary charity calls. The business man who gives, gives only of his excess of accumulated wealth, the professional man who gives, donates a portion of his daily bread. This vast charity, thrown around indiscriminately, receives little, if any, recognition from either laity or press, except perhaps from the beggar who always picks the doctor's sign as the house to call for alms. All such charities should be properly and carefully supervised and the name and address of the recipient properly filed for future reference and investigation. If credited to the profession, the free work to the worthy poor alone would be found to exceed all other charities combined, and, though the difficulties of regulation may seem insurmountable, the medical society should not rest content with the present loose methods.

The reply to the remark that a very large proportion of the free-treatment patients can and should pay is that they are needed for clinical teaching. This is untrue; they only push out the worthy poor and are too independent and inconstant to make good teaching material. The truth is they are not needed, because we have more than enough worthy poor for good teaching if they were all properly utilized. While it is gratifying to the ambitious clinician to have a well-attended clinic for teaching, it is a notorious fact that many of our well-attended dispensaries, medical, surgical and obstetrical, with large numbers of well-dressed patients, are never used for teaching purposes at all. It is certainly not altruism for the society to ignore the interests of the individual members by allowing people able to pay for treatment to have it free and retard the advancement scientifically and morally of the whole profession by keeping it unnecessarily so much the poorer. When the social settlements protest by writing to medical journals against the demoralizing and pauperizing effect of free dispensaries is it not time for the medical society to act? While those who have consultation practices do not escape needless loss from this source, those who most feel such sociologic discrepancies are the general rank and file of the profession. These latter frequently find much difficulty in making more than a bare living and often can not do that. Being thus deprived of the means, is it any wonder that so few city practitioners take postgraduate courses? Yet they are expected to be ethical, scientific and altruistic members, and any lapse from grace on their part is at once attributed more to a lack of moral force than the stress of the foregoing circumstances.

The general practitioner, in his turn, has from necessity tried various devices to cope single handed with these adverse conditions by introducing questionable methods of his own, such as empirically dispensing tablets to save losing a dollar patient by a repeat, thereby goading the druggist to the very dangerous and malicious practice of counter-prescribing to make up for loss of trade; the undertaking of the care of the most serious medical and surgical cases unaided, by denying himself often much needed consultation or laboratory aid, bidding low for contract practice to wealthy corporations, advertising in a semi-unprofessional manner or, indeed, from actual need, resorting to criminal practices. Another matter of importance is that more notice should be taken of attacks by the lay press, who often viciously attack a regular member of the profession unwarrantedly while the advertising quack is protected. Recently a leading Sunday article appeared in the Chicago *Tribune* entitled "Let the Coroner Investigate." It told of the lessened death rate from diphtheria since the administration of antitoxin by competent men and, after speaking disrespectfully of the profession as a whole, it actually advised that the coroner investigate each death from that disease, and, if the doctor be found negligent, that he be sent to the pentitentiary, or at least that his practice be ruined as a warning to others.

A sensation was recently created by the arrest of a physician for charging $100 for an office consultation. How true or distorted the sensational statements were is difficult to say, but we have all heard fabricated stories of members of the profession in which there was not an iota of truth many times.

In a recent Sunday Chicago *Tribune* appeared a sensational account of the purchase by a number of charitable women of a false leg for a 19-year-old girl who, due to malpractice (an overdose of medicine at the age of 2 years), had the growth of one leg stopped so that it was useless and later had to be amputated. While the absurdity of this may be obvious and laughable to you, it is only one more example of malpractice to the press-devouring public. The notice of the institution of a malpractice suit is rarely without insinuating remarks against the doctor whose reputation is hurt more thereby than by the actual trial itself, the paper virtually trying the doctor, even though it be absolutely ignorant of the facts. A polite but firm note from the public relations committee calling attention to the injustice of an unwarranted attack and often to its absurdity also would soon cause these to cease or at least to be confined to the facts.

Such matters as this may be beneath our dignity to notice, but all statements of the lay press have a very marked influence on the attitude of the general public toward the regular profession and are accepted as truth by the laity. Such conditions demand that wrong impressions and statements about members be rectified promptly and, if the member's position be a just one, he should be immediately defended by the medical society as a whole.

A little more moral courage in this direction on the part of the profession would elevate them in the eyes of the public and help stem the tide of misguided feeling and reversion to quackery and so-called faith healing and materially aid the present very inadequate public lecture courses in giving a right idea of the present medical status. A public lecture undoubtedly does some good to tens, but the public newspaper maligning the profession is read and believed by hundreds of thousands. We have tried silence in these matters long enough and we should change, but the committees of the Chicago Medical Society are already overburdened with their routine work. The malpractice suits pending in Chicago alone are over 87 in number. They are often begun on the most flimsy pretexts, from a desire to avoid payment of a bill, to a genuinely inflamed notion of improper (often free) treatment, or indeed it may be a case of pure blackmail incited by an unscrupulous attorney or, lastly, one is ashamed to relate, incited by the thoughtless remarks of some member of our own profession or, indeed, an ethical member of our medical society in good standing who is called in to see the case and who improves the opportunity (always truthfully we hope) for himself, but often unfairly and disastrously for his confrère, and, indeed, also often disastrously for the patient.

Suits are always disastrous to the profession, as a whole, but especially to the man sued, because its publicity injures his reputation and practice, the worry injures his health and capacity for good work. In Chicago the protection against malpractice is being very ably maintained by the medical society, at present due to the good offices of Dr. W. A. Evans and the committee, at great cost of time to them. How much longer this committee will be able to cope, without help, with their ever-increasing duties is hard to say. If one suit be decided against a doctor it means that twenty or thirty new suits are started immediately in any large city like Chicago. Fortunately, due to the good work of the committee, the Chicago Medical Society has been able to pass a year without a single adverse verdict. In Chicago, with the scientific inducements alone, the medical society grew but very slowly each year and consisted of only about one-fifth of the practitioners of the city. The city, covering so wide an area as it does, made it difficult for men residing in the outskirts to attend. Also many men practicing in districts close to the central society meeting place would not give the time; indeed, some members in good standing, moving into outlying districts, allowed their enthusiasm and memberships to lapse, and in some cases, indeed, altruism and ethics being routed by bitter experience, the embryo scientist became simply a practitioner, with medicine as a business, or even took to advertising or questionable methods. The division of the city into geographical districts, with a subsociety for each district, met at first with lukewarm response. Some district societies started with 8 or 10, and others with more members, but the attendance usually at first only represented about one-tenth of the men in a district. The number has grown gradually, if less slowly, each year, due to better canvassing.

Despite these inducements, much apathy continued and arguments were often met with the remark, "I can be ethical without joining the society and paying dues and spending time that I can ill afford. What do the society benefits amount to?"

Under the presidency of Dr. W. A. Evans the society instituted protection from malpractice for members in good standing. This sociologic advancement, which has proved a great success, was the very thing the outside members of the profession were ready for; it was something for something, and men who were never before in the society joined and after joining began to attend and interest and improve themselves and become acquainted personally with and understand and respect men in the same profession whom they had known by sight only, though they were resident but a block apart since many years.

The watchword for the coming year, given out at the first Council meeting by Dr. G. W. Webster, the president, was, "The Chicago Medical Society for its Members," which is a further move in the right direction.

That the sociologic interests of the members in good standing be, if possible, still further considered is especially welcome, as the splendid work done by the Organization Committee has surpassed all expectations and made things previously impossible now capable of consideration.

The work done by the branch societies to-day is quite equal in scientific value to that done by the main society and often by men who until recently were not members of or attending any medical society, yet the number of non-members who can not be induced to join and members who do not attend is too large. There is need of further inducement not only to enroll themselves, but after enrollment inducements should be held out to become actively interested and attend meetings and to study, to take postgraduate courses for self-improvement scientifically. To encourage and assist this latter in the entire profession is as much the duty of a medical society (in order to maintain the highest professional standing and with it the respect of the laity) as it is to give our attention to hygiene and other duties to the public.

That the medical society members wish for further sociologic advancement is evidenced by the referendum ballot in June last, when 407 voted for the institution of a bureau, out of a total vote of 655.

That there is need of some central place for the ever-increasing work of the committees of the society is amply evident to all thinking members, especially if the Council attempts to rectify some of the abuses that I have taken the liberty to portray, and the justification for such an attempt can be found in the conduction of the medical defense (which is now being extended to the state) and the state medical journal, both of which are a credit and invaluable to the society; while such things as the blue-book, which is only under the auspices of the society, still contains the names of advertising men and others, side by side with members, is ample evidence that 'only under the auspices' is not to be compared with complete ownership and control.

COMMERCIAL ELECTRICITY AND ITS DANGERS.*

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We are living in the "Electric Era" of the world's history, for within the past twenty-five years, the uses of electricity have multiplied in such an infinite variety of ways, and have become such necessities of every day life, that we may truly say, in large cities at least, that we are literally surrounded by this unknown but potent force. While the rapid development of this energy for commercial purposes has greatly added to our well being and comfort, it has also unfortunately vulgarized a great variety of hitherto unusual accidents, and it shall be our endeavor to bring out the etiologic factors of the commoner electric injuries and to outline their prophylaxis and treatment.

The two great varieties of electricity are known as (1) static, i. e., discharge of electricity between two clouds or between a cloud and the earth; (2) dynamic or current electricity. All commercial electricity is dynamic, and this type of energy will alone be considered in this paper. The dynamic current may be produced by chemical means as in a voltaic cell or battery, or by electro-magnetic induction, as in the dynamo. The volt or unit of pressure or electro-motive-force, the ampere or unit of current strength and the ohm or unit of resistance are too well known to need further discussion. It is also well to remember the definite relation which exists between current strength, resistance and electro-motive-force, known as Ohms law, which is that the strength of current is equal to the electro-motive-force divided by the resistance. Other units, such as the Coulomb, Watt and Farad, while frequently referred to in commercial parlance, are not such important terms to remember.

The effects of a discharge of electricity may be (1) luminous; (2) heating; (3) mechanical, as in lightning discharge; (4) physiological, as in a shock; (5) electrolytic, as in plating; and (6) magnetic. Commercial electricity, with few exceptions, is usually derived from the dynamo or magnetic discharge. An electric pressure of 500 to 550 volts has become well established as the standard for electric traction, whereas in street lighting, the standard arc lights, requiring a current of eight to ten amperes at fifty volts pressure to each lamp, are frequently hung in circuits of fifty, so that in accidental short-circuiting, an extreme voltage pressure of 50x50 or 2,500 volts may be liberated. While shocks are in reality caused by N. amperes current strength, we habitually speak of N. volts as having passed through a person's body. This apparent misuse of terms is due to the difficulty or impossibility of computing the amperes without knowing the resistance in ohms of the individual at the time of the accident. The dynamometer will register the pressure or E. M. F., but as the human body will, under dissimilar conditions, offer a resistance which may vary between 500 and 200 ohms,

* Read before the North Shore Medical Society, Oct. 2, 1906.

the impossibility of computing the shock in amperes becomes self-evident.

The current used may be either direct or indirect, the choice of current being largely a matter of expense and convenience. In general, it may be stated that the direct current is the more dangerous to both employes and public, because it only requires one path or wire to form a short circuit, whereas in the indirect or alternating current two wires or shunts are necessary to short circuit the current. On the other hand, the higher voltage of many alternating currents would increase the mortality of an accidental shunt. As far as the effects on the human body are concerned, there is probably very little difference between a direct and an indirect current of equal strength, short circuited under identical circumstances. Aspinall[1] believes that the after effects of a direct current shock are worse than those due to the alternating current. He also noted that, if at the time of the accident, the live wire or rail was not or could not be gripped by the hands, a direct current would knock the victim down, whereas an alternating current would draw him towards the live wire; where the wire or rail is gripped, the reverse holds true. The experience of several employés of the Northwestern Elevated Railway, fully corroborates Aspinall's observations. Southwaite[2] reported the case of a workman who formed a shunt while examining an alternating current dynamo. He was found fixed to the machine in a condition of tetanic spasm, back in opisthotonos. Green[3] narrates a fatal accident occurring to three horses drawing a wagon load of bar iron. Passing near a trolley pole, a short circuit occurred and the horses were seen to be as if magnetically drawn towards the pole where they all fell dead. In this case, the current was an indirect one, of only 100 volts pressure. According to Edison,[4] horses are more easily killed by electric currents than are men, because they have four contacts on the ground instead of two and are iron shod.

Dangers of electric traction: The majority of surface or elevated traction companies now use a direct current of 500 or 550 volts pressure, having an enormous amperage. It is fortunate for the safety of public and employes that no higher pressure is, at present at least, needed. My observations have all been made on the Northwestern Elevated Railway in Chicago, where a direct current of 550 volts pressure is used, with the third rail system. Inspired by the experiments of Trotter[5] and the reassurances of several practical electricians on the road, various means were taken to test the actual dangers, if any, of shocks of 550 volts pressure. Trotter emphasizes the importance of (1) dry weather, (2) dry clothes, (3) dry skin, (4) no nails in the shoes, in order to maintain body resistance at a maximum. Resistance is almost all at the skin and varies with the thickness of the skin. It has been estimated to vary between 10,000 and 40,000 ohms (Staples[6]). Trotter's estimates were:

1. Aspinall: Lancet, 1902, p. 660.
2. Southwaite: Brit. Med. Jour., 1901, p. 573.
3. Green: Jour. Comp. Path. and Therap., Edinburgh, 1904, p. 246.
4. Edison: "Electricity in Modern Life" (Tunzelmann).
5. Trotter: Lancet, 1902, p. 809.
6. Staples: Northwestern Lancet, 1904, p. 277.

(1) from finger tip to finger tip on dry metal and under 100 volts pressure, 2,000 ohms; (2) from hand to hand when grasping two pieces of trolley wire, 5,000 ohms; (3) between body and earth or an iron rail through the sole of foot, stocking and boot, 45,000 to 200,000 ohms. With worn out and wet shoes, the resistance fell to 13,000 ohms.

In order to clearly understand the practical significance of body resistance to electric currents, a few examples may not be amiss. Medical applications vary between one and twenty milliamperes, twenty being the usual maximum, three to eight 8./. being supportable, and as a rule ten m.a. painful. Let us take the common case of a lineman repairing a switch or rail on a dry day. His skin and clothes are dry, and his resistance is, let us assume, 20,000 ohms. He accidentally shunts the current flowing at 550 volts pressure, and is thrown down by the shock. He received at the time of the shunt 20,000 divided by 550 or 027 amperes or 27 milliamperes, a painful but not unendurable shock. The contact being only momentary, there may be no burn, or, if any, only one of the first degree. Had this same lineman been grasping a rail or cable at the time of the shunt, a tetanic contraction of his muscles would have prolonged the contact, thus decreasing body resistance and increasing both shock and burn. On a wet day, this same lineman, under otherwise identical conditions, would have received a shock of 550 divided by 500 or 1.1 amperes, which, if unduly prolonged, might prove fatal. The only fatality coming under my observation was that of an intoxicated citizen who, while waiting for a train in the early morning, fell on the track so that his head touched the live rail and both body and feet were in contact with the two running rails. He lay in this position for several minutes and was picked up dead, with his left parietal bone burnt through to brain tissue. Currents of 2,000 volts (Brownson[7]), 2,750 volts for ten minutes (Kiliani[8]), 2,800 volts (Mally[9]), have been reported, causing severe burns, which in two cases required amputation of a limb, but without fatal issue.

It is not my purpose to take up your time in recounting the details of the many tests made on the elevated tracks; I shall merely give you the practical results derived therefrom, which are as follows:

1. In dry weather, it is safe to place one foot on the live rail, even if the other foot is on a running rail; a lineman may even sit on the live rail with his feet on the running rail, providing his clothes and shoes are dry and not torn.

2. A disagreeable but not a painful shock is experienced if, while sitting on the live wire rail, the lineman touches a running rail with his hands. However, should he be handling an iron tool, a short circuit would result in an inevitable "flash burn."

3. The majority of accidents are the results of careless handling of tools, the workman not being careful to shift his position in order to avoid the danger of a shunt.

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7. Brownson: Am. Jour. Surg. and Gyn., St. Louis, 1897, p. 160.
8. Kiliani: Ann. Surg., 1904, p. 434.
9. Mally: Rev. de Chir., Paris, 1900, p. 321.

4. Wet weather or wet clothes greatly increase the danger of shunting and severity of the injury.

Pathology: The pathological changes are those of ordinary burns plus the peculiarly devitalizing effect of the electric current. Flash burns are of the first or second degree; burns due to the passage of an electric current through the body may be of any degree, depending on the length of contact and degree of resistance offered. Electric burns are, at first, dry, aseptic and indolent, followed later by considerable serous effusion and signs of moist gangrene. It is important to remember that electric burns are always more severe than is apparent on first examination. The slight blister may develop sloughing to the bone. There is always a charring of the epidermis; blebs only form in from twelve to eighteen hours. In flash burns involving the face, there is a severe conjunctivitis; occasionally we may have a sloughing of the epithelial covering of the cornea (traumatic keratitis). The eyebrows and eyelashes are rarely permanently destroyed. Regeneration of the epidermis is usually three or four times as slow as in ordinary burns. This slow healing is probably due to the penetrating action of the electric fluid (Oldright[10]). Weathers[11] reports a slough weighing two and a half pounds removed from a patient's lumbar region as the result of a prolonged contact. In case No. 7 N. W. El. series, a portion of the left parietal bone was burnt through, exposing brain substance. Sloughing principally affects the muscles and blood vessels and the blood does not appear to show any tendency to clot (Elder[12]). In fatal shocks, death is due to a paralysis of the respiratory center and is, therefore, a species of internal strangulation. This theory is supported by the clinical fact that artificial respiration will undoubtedly save many lives after apparently fatal electric shocks (Von Kratter[13]). Batelli, quoted by Chanoz,[14] says that in fatal shocks the ventricles of the heart are in a condition of fibrillary tremulation.

Symptoms: 1. Shocks.—It is difficult to describe the mental sensation resulting from an electric shock. Many persons faint, others report having felt a sensation of impending dissolution, an "angor animi" followed shortly afterwards by various neurasthenic or hysterical manifestations. The railway employes rarely suffer from shock. Constant familiarity has so eliminated the element of fright that for him it is a physical injury or no injury at all. In persons unfamiliar with electricity and its manifestations, the effects of a powerful electric shock are essentially different from those experienced by the employes of traction companies. A passenger receives, independently of any electric shock, a fright as severe as that caused by a railroad collision. It is not probable that electric currents which do not induce almost instant death ever cause organic nervous disease (Baily[15]). The functional disturbances

10. Oldright: Dominion Med. Mag., August, 1905.
11. Weathers: New York Med. Jour., April 2, 1898.
12. Elder: Montreal Med. Jour., 1900, p. 18.
13. Von Kratter: Seventy-seventh Deutsche Naturforscher u. Aertzte Congress.
14. Chanoz. Lyon Med., 1904, p. 693.
15. Bailey: "Diseases of the Nervous System," p. 373.

following electric shocks are those of traumatic neurasthenia. Transitory amaurosis (Heck[16]), tremors, paresthesias, tachycardia (Knapp[17]), loss of sexual power, etc., have been reported. Case No. 61 of my series was that of a young mechanic who grasped with his left hand a curved iron tubing inside of which were wires leading to a 32 candle power electric light. The insulation of the wire had become defective and the man received a mild shock. He fell down in his tracks and, when picked up, was found to have a paresis of the left arm. He complained of pain in the shoulder muscles, followed soon after by pain and tingling in the biceps. When seen in my office a few minutes later, the left hand and forearm were cold and clammy and the left radial smaller than the right. Complete anesthesia existed below the elbow but there was slight motion in the flexors and extensors. Reassurance, an internal placebo and vibratory massage restored all nerve functions in about half an hour, to his great amazement and gratification. The rapid clearing up of all symptoms probably prevented the development of traumatic neurasthenia in this case.

2. Burns. Immediate appearance: The skin has a dark brown color, is absolutely dry and often finely wrinkled up; to the touch it feels somewhat like parchment. As flash burns occur principally in the repair shops, it is often difficult to distinguish between burnt skin and unclean skin; the latter is however greasy and moist in appearance and never gives one that parchment like feeling which I consider so characteristic of a flash burn. Electric burns present a clean cut edge with no redness surrounding it (Hutchinson[18]). In burns involving the face, the eyebrows, eyelashes, mustache and any hair which is not covered by the man's cap or clothes will be singed down to the skin. There are no blebs to be seen for twelve to eighteen hours after the accident. The patients complain of numbness and tingling; sometimes of a dull throbbing pain. Notwithstanding the contrary experience of a few surgeons as Staples and Elder, I maintain that the pain of electric burns is not severe. It is important to differentiate between the often intense pain of traumatic neurasthenia and the mild pain actually due to an electric burn. The former is widespread in its distribution while the latter is usually limited to the areas actually burnt.

Treatment: (1) Instructions to employes.—Practical talks on electric shocks and burns were given in the shops to all the foremen. Whenever an employe of the road is unfortunate enough to become the medium of a short circuit by accidentally grasping the third rail, his co-employes are instructed to pry him off as soon as possible. The hands can be pried open with a piece of dry wood; the man's hold can be broken by pushing him away violently as by a sudden jerk; a dry coat can be folded up and used as a battering ram, etc. As a matter of practical experience, on a dry day, with dry shoes, and standing on wood, it is perfectly safe to seize a short circuited person by the shoulders and wrench him away; in rainy weather the hands should be protected by a

16. Heck: Allg. Med. Centrbl. Zeit., 1898, p. 915.
17. Knapp: Quoted by Bailey, *loc cit.*
18. Hutchinson: Med. Register, Phila., 1887, p. 102.

dry coat or cloth. Rubber gloves would be ideal, but they are never on hand, at least not in America, although English linemen and gatemen are provided with them and instructed to put them on in case of accident. The men are impressed with the fact that serious or fatal shocks can only occur as a rule when contact is made with bare skin or thoroughly wetted clothes, and is prolonged. In spite of these facts, Tollemer[10] states that certain traction companies in France still have printed instructions on their cars, advising people not to touch a short circuited person unless the current is cut off or they have on rubber gloves. Such advice means that passengers and co-employes are invited to witness the electrocution of human beings. As soon as the man is "uncircuited," he is to be wrapped up in overcoats or blankets and, if unconscious, artificial respiration is to be immediately instituted and kept up until the surgeon arrives. The burnt areas of integument, if any, are temporarily dressed as in cases of flash burns, and the man is sent to the surgeon's office or to the hospital for subsequent treatment.

2. Flash burns: This variety of accident is a very common one and, while occasionally due to the employe's carelessness, is more often unavoidable. Actual contact between the third rail and ordinary rail is not always necessary for the production of an electric flash, provided a good conductor be in contact with the one and within a few inches of the other. This is especially true in damp weather when, as the men say, the rails are "juicy." The steel monkey wrench has frequently been the means of communication between the car and the third rail; the coupling hose connecting the motor car with the coaches often becomes detached, its free end striking or coming in close proximity to the third rail. Defective insulators are also responsible for short circuits. As most of these accidents occur while the employe is in a stooping position, the entire face is as a rule surrounded by the flash. The areas involved are quickly swathed in a soda bicarbonate solution (one teaspoonful to the pint of hot water). "Hands off" is the keynote of our instructions to the men. The habit of cleaning the face and hands with pieces of lint or towels resulted in several instances in removing the epidermis, with consequent infection of the burnt area. Since this rule has been enforced, flash burns have ceased to suppurate. Whenever the burn has been received some distance from the shops or surgeon's office, and the employe has attempted to cleanse the area involved and to wrap a handkerchief or cloth around it, suppuration has almost always occurred.

Active treatment: Before removing the temporary dressing, the injured man is cleansed of shop grease and dirt. The gauze dressings are then taken off and the extent of burnt area is ascertained. With pledgets of cotton moistened with ether, the skin immediately surrounding the burn is carefully cleansed of grease and dirt and a bland ointment such as stearate of zinc ointment with or without a small percentage of carbolic acid is smeared over the burn. Sterile gauze, cotton and bandages complete the dressing, which is changed every day for two or three days, after which a mild dusting powder is alone used. For

10. Tollèmer: Presse Med., Paris, 1902, p. 545.

conjunctivitis, I apply sterile vaselin and keep patient's eyes covered for two or three days with moist dressings. When the primary reaction is very severe, the patient is supplied with a solution containing adrenalin chlorid, grs. 1/8; cocain hydrochlorate, grs. 2 to 4; boric acid, grs. 8 in an ounce of water, and instructed to instil this solution as long as the pain lasts. I have never seen a traumatic keratitis following a flash burn. Should infection occur, all ointments must be cast aside and moist boric acid dressings substituted. The patient is given a free supply of boric acid solution and instructed to keep the dressings constantly saturated. Unless sloughing is very active, the dressings are only changed every second or third day. Experience has taught me that we get the best results by using an extremely mild antiseptic, either in the ointments or wet dressings. Stronger preparations such as carbolized vaselin, picric acid, turpentine or corrosive sublimate solutions, retard Nature's work by increasing cell necrosis. If flash burns could all be sent to a hospital, the "open air" treatment advocated by Sneve[20] appeals to me very strongly. Sneve advocates leaving the burnt areas uncovered and freely exposed to air and sunlight, merely keeping the secreting surfaces dusted over with stearate of zinc powder and opening blebs and pustules as they form. By this excellent plan, the newly formed cells are not being torn off day by day with the dressings as they so frequently are under ordinary methods. The greatest value of this method lies of course in the treatment of burns of the second or third degree.

SUMMARY.

1. Electric burns are slower to heal than ordinary burns.
2. They are comparatively painless.
3. The immediate treatment is all important; non-interference at the time of the accident results in the maintaining of an aseptic wound; the habit of cleansing the burnt area in the shops or home is to be severely condemned.
4. The mildest antiseptics are to be preferred as they do not interfere with Nature.
5. A guarded prognosis should always be given.

1916 Evanston Avenue.

PARTIAL INFERIOR TURBINECTOMY AS PERFORMED WITH MYLES' NASAL FORCEPS.

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In hypertrophy of the lower turbinates of considerable degree or in cases with hypertrophy of a lesser degree, the nasal fossæ being abnormally narrow, a partial inferior turbinectomy is indicated, other measures of a less radical nature having failed.[1] According to Fein,

20. Sneve: Journal American Medical Association, July 1, 1905.
1. v. Tovölyi Arch. f. Laryn., vol. xvii.

(*Monatsch. f. Ohrenh.*, 1906) in nearly all forms of hypertrophy of the lower turbinates, be they stationary or temporary, that is, either a hyperplastic or a transitory vasomotor enlargement, only one form of treatment gives permanent relief, viz., "bloody ablation." Cauterization with chromic acid, trichlor, acetic acid or the application of other astringents and vibratory massage, give but temporary relief, if the hypertrophy is of a mild degree. The galvano-cautery he reserves for occasional especially transitory vasomotor swellings, involving only the inner surface of the lower turbinate, with this restriction, however, that the process of healing is much slower and more wearisome. He further states, that unless we are careful, both during the operation and the after-treatment, synechiæ may result, which of themselves may cause even greater disturbance than the enlarged turbinate itself. While he would subject circumscribed enlargements of the upper surface of the lower turbinate to treatment, he strongly advises against the use of cautery in uniform thickening of the mucosa, since incalculable reactions and complications may result. Finally, he says, that as a rule, more can be accomplished in these cases by removing a portion of the middle turbinate or septal thickenings.

Forcells[2] states that, although the galvano-cautery still has its active supporters, resection is rightly gaining recognition, not only because by resection we gain our end much quicker, but there are some cases whereby repeated cauterization, the desired result is never obtained. Quoting McAuliffe,[3] he says: "Partial inferior turbinectomy gives the best results for the cure of the major symptoms of chronic hypertrophic rhinitis."

Different methods are in vogue for resection of the lower turbinate. Let us first consider the snare. Its field of usefulness is limited to masses of soft tissue, especially at the posterior end of the turbinate. In a large majority of cases, it is necessary to remove a portion of the lower turbinate bone itself, together with the hypertrophied mucous membrane, in order to gain the desired result. Rindfleisch,[4] out of a total of 627 conchotomies, cites but 13 cases where soft tissue alone was removed.

Curved scissors are used by a great many operators, but, that they are not well adapted is shown by the numerous attempts to remedy their defects. Amongst others, v. Tovölgyi mentions Holmes, Beckman, Rauties, Prince, Creswell Baber, Hartman, Heyman, Fein and Schoetz. Mention should also be made here of Casselberry, Ingals, Herzfeld, Potters, Seiler and Gruenwald. v. Tovölgyi uses a straight scissors, whilst Forsells uses a straight forceps and v. Voss a curved forceps. McAuliffe uses a beveled saw.

Let us consider the forceps. The advantage of Myles' forceps over the scissors are that they are less bulky and that they do not open like scissors but operate on the alligator principle, consequently causing little

2. Monatschr. f. Ohrenh., 1905.
3. Laryngoscope, February, 1905.
4. Monatschr. f. Ohrenh., 1905.

obstruction to the field of operation. This is of the greatest importance, since the amount of tissue to be removed is under constant view. Sufficient tissue must be removed in order to give the patient relief from his symptoms. On the other hand, if the greater portion of the turbinate is removed, unpleasant sequelæ, such as follow total ablation, may result. "Subsequent molding of the turbinate and the preservation of the breath guiding function of its arch are most important factors in increasing respiratory comfort."[5]

Regarding this point, Fein[6] makes the following statement: "The lower turbinate, considered as a whole, has a large influence on the course and quantity of air that passes through the nose."

Continuing, he says: "Knowing this, the operator must not be misled to remove in all cases so much of the turbinate as he can get hold of, since the absence of the same, as is well known, may cause other obnoxious symptoms for the patient." That this mistake is often made and that this methodical amputation of the lower turbinate has brought rhinological interferences into disrepute, must be admitted by every experienced specialist.

It is rarely necessary to remove more than one-half of the turbinate. In the majority of cases operated on, only one-third of the turbinate was removed. Rindfleisch,[7] in his 627 cases previously mentioned, reports the following: Total ablation of the turbinate, 3 cases; removal of four-fifths of the turbinate, 26 cases; removal of three-quarters, 99 cases; removal of two-thirds, 66 cases; removal of one-half, 235 cases; removal of one-third, 123 cases; removal of one-quarter, 32 cases; removal of soft tissue only, 13 cases. In 30 cases there was no record. If the hypertrophy is of the vasomotor type, one must be content to remove the redundant mucous membrane only. If this vasomotor enlargement involves but the inner surface of the turbinate, the cautery must be brought into use.

The operation for partial inferior turbinectomy, as performed with Myles' nasal forceps, is as follows: The nose is sprayed with a cleansing solution. If the patient is very sensitive, a weak (1 per cent.) solution of cocain is sprayed into the nose. After a few minutes, the regular application of a 5 per cent. solution of cocain may be made, with pledgets of cotton wrapped on a nasal applicator, which is gently passed along the medial surface of the turbinate. After the tissue has shrunken some, application is made along the outer surface or beneath the turbinate. Four or five applications of (1/1000) adrenalin are made in the same manner. Pressure is now made with the probe at different points of the turbinate, to test its degree of anesthesia, and, if any painful points are found, more cocain is applied. If, after the first few applications of cocain, the patient gets a little pale, it is best to have him lie down on a table, when, as a rule, in a few minutes, he will feel better, and the application may be resumed. The turbinate having been completely

5. McAuliffe, Laryngoscope, 1905.
6. Monatschr. f. Ohrenh., 1906.
7. Ibid., 1905.

cocainized, the patient's head is supported in a perfect horizontal position. If the head is thrown back, too much of the turbinate is likely to be removed. Next we introduce the forceps, the male or cutting plate beneath the turbinate, the female plate resting on its inner surface. Occasionally it is more convenient to reverse the forceps. As much of the turbinate as is desired may be removed without withdrawing the forceps by carrying them back in a straight line whilst cutting. The instrument is then withdrawn.

The mass of soft tissue at the posterior end is removed with the cold wire snare. The patient is directed to blow his nose, so as to remove all severed particles of tissue. The cut surface is now mopped dry and, if necessary, more adrenalin is applied to check all bleeding. The entire wound is covered with a collodion dressing in the following manner: A rather thick layer of cotton is molded over the cut surface and is then saturated with collodion. Pischel,[8] who first described this dressing, uses strips of gauze instead of the cotton. He applies the collodion with a small metal tube which has a rubber bulb attached. The advantages of this dressing over the gauze packing are: 1. It does not cause the patient any of that pain which arises from the pressure of the gauze packing. 2. It does not entirely occlude the nasal fossa, thus adding to the patient's comfort. 3. Postoperative temperature and complications are less frequent. In sixty consecutive cases where the dressing has been used, I was obliged but once to introduce a gauze packing a few hours later to check bleeding. Pischel[9] reports 243 cases, with a perfect result in 233. It is advisable for the patient to remain quiet for the first twenty-four hours. The dressing may be left in from four to six days. To facilitate its removal, a little cocain is sprayed into the nose. The patient is now given an alkalin spray (preferably Dobell's Sol. dil.) to be used several times a day until healing is complete. Out of a total of 500 operations, prolonged scab formation or other unpleasant symptoms were not observed. Three cases developed an acute otitis media, and a few others developed an acute follicular tonsillitis.

The following is a résumé of cases as observed in Prof. C. M. Robertson's clinic: Chronic hyperplastic enlargement of both lower turbinates, 272 cases; chronic hyperplastic enlargement, involving one lower turbinate, 9 cases; vasomotor rhinitis, 22 cases. Associated conditions: Hypertrophy of both middle turbinates, 40; hypertrophy of one middle turbinate, 32; ecchondrosis and exostosis, right side, 36; left side, 39; deviation of septum to right, 16; left side, 13; synechia, 2; nasal polypus, 10; traumatic ulceration of septum, 4; specific ulceration, 3; chronic maxillary empyema, 3; acute frontal sinusitis, 4; chronic dacryocystitis, 5; adenoids, 41; chronic naso-pharyngitis, 32; pharyngitis sicca, 12; enlarged lingual tonsil, 19; enlarged faucial tonsils, 71; papilloma of right vocal cord, 2; chronic laryngitis, 25; chronic bronchitis, 9; asthma, 5; hay fever, 4; nasal hydrorrhea, 3. The following subjective symptoms were elicited: Obstructed nasal breathing, 138; mouth breathing, 48;

8. Jour. Am. Med. Assoc., 1905.
9. Ibid.

excessive nasal secretion with dropping into the throat, 116; dryness of nose, 32; nasal bleeding, 7; diminished olfaction, 5; excessive sneezing, 13; deafness, 25; pain in the ear, 6; tinnitus, 5; chronic sore throat, 41; tickling in the throat, 21; sensation of fullness in the throat, 29; frontal headache, 21; pain over the eyes, 11; chronic cough, 26; chronic hoarseness, 24; difficulty of speech, 7; incontinence of urine, 1; disturbed sleep, 10; lacrimation, 5.

In conclusion, I wish to say that the credit for having first made use of Myles nasal forceps, for partial inferior turbinectomy, belongs, as far as can be ascertained, to Prof. C. M. Robertson. The forceps may be used with equal facility for any enlargements of the middle turbinate, for which purpose, I believe, they were originally designed by Prof. R. C. Myles, of New York.

504 Cleveland Avenue.

ILLINOIS MEDICAL JOURNAL

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NOVEMBER, 1906.

THE OTTAWA TENT COLONY.

The Ottawa Tent Colony has sent out to its friends and supporters a very neatly gotten up booklet describing the institution. The open air sanitarium is of much more interest to the members of the Illinois State Medical Society than perhaps any other institution, public or private, in the state. It is really an offspring of the state society, since it was the elaborate symposium on tuberculosis, held at the Bloomington meeting in 1904, that led to its establishment. Started primarily as an experiment and an object lesson, with the hope that it might eventually grow into a state institution, it proved so successful that when all hopes of a state tuberculosis institute were, for the time being, shattered in 1904, it was continued as a private institution. And yet it has not been conducted for money making, for even as a private sanitarium its main object was and is to demonstrate the curability of tuberculosis in this Illinois climate. It is hoped that, when the proper time comes, the state will recognize the

wisdom and unselfishness of the founders of this admirable institution, and will provide a state refuge for tubercular patients either on the site of the Ottawa Colony or at least modeled closely after it.

To those who have visited and been entertained at the colony, and who have stood on the wide veranda and gazed across the Illinois River and over the beautiful Illinois landscape, the little book issued by the managers recalls many pleasant memories. A more beautiful spot could hardly be selected. Certainly a more enthusiastic and devoted director could not be found anywhere. Tempering his enthusiasm with scientific moderation and his devotion with common sense, he is engaged in the great work of demonstrating that the worst disease of modern times can be conquered, not through drugs, but through good air, good food and rest. Through the good work of Dr. Pettit and other members of our State Society, the experiment begun and successfully carried out at Ottawa may yet serve as a model to many other state societies. It is earnestly to be hoped that each year of the existence of the Ottawa Tent Colony will be more successful than the last.

MEDICAL DEFENSE IN PENNSYLVANIA.

The Medical Society of the State of Pennsylvania has a medical defense fund which is managed by the Council, according to rules adopted at the last meeting held at Bedford Springs in September. Inasmuch as our State Society is about to undertake this work, we publish below the rules adopted by the Pennsylvania organization.

1. The Council shall, at each annual meeting, appoint an attorney at law for the term of one year as counsel for this Society.

2. The Council may, upon request, and in compliance with the conditions hereinafter named, assume the defense for the alleged malpractice brought against members of this Society.

3. The Council shall not undertake the defense of any suit brought for acts committed by a doctor prior to his qualification as a member of this Society.

4. Any member desiring to have the Society defend him in a suit for alleged malpractice shall present his case in writing to the censors of his county medical society, who shall advise him concerning the validity of the claim. A majority of the censors of his county society having submitted the documents in the case, and having certified in writing their approval of his defense, he may make application for defense to the Council, through the Secretary of the State Society. If the Council

shall approve his application, and undertake his defense, he shall then sign a contract, vesting in the Council the authority to conduct the defense of said suit, and shall make such other arrangements as the Council may require; provided that no compromise shall be made without the consent of the accused, and provided, further, that nothing in the foregoing shall conflict with united action in the defense by the officials of any component county society, or of any corporation organized for this specific purpose in which he may be insured.

5. The Council, by a majority vote of all its members, shall contract with said applicant to take full charge of said suit, to furnish all necessary legal services, to furnish all medical expert services, and to pay all necessary expenses of the accused, excepting expenses for witnesses called to testify to questions of fact. Provided, that if the accused is insured in a corporation organized for the legal and financial defense of physicians, the foregoing responsibility of the Council may be divided with said corporation; or the member may be allowed a certain sum of money satisfactory to both Council and member, for part of his defense expenses, and the Society shall be relieved of all responsibility. The Council shall not obligate the Society to the payment of any damages awarded by the decree of court or upon compromise.

6. The Council shall in each case name the sum for the compensation of the attorney.

THE QUESTION OF OSTEOPATHS.

The status of osteopathy is likely to be brought before the courts by the action of the coroner of Adams County, who recently appeared in Springfield to question the right of an osteopath of Quincy to sign a certificate of death for a patient, under osteopathic treatment, who had died from typhoid fever. We believe this is the first time this point has been brought up. It is certainly high time that the standing of these practitioners should be settled and the limitations of their practice defined. It is an open secret that they do not confine themselves to the limitations prescribed for them by law, but are practicing medicine and surgery, in many cases, to the full extent of the term. We sincerely hope that the Adams County coroner will push this matter to its legitimate conclusion and determine now and for all time whether or not osteopaths can trifle with human life in the practice of their absurd specialty.

IOWA TAKES UP THE JOURNAL IDEA.

With the July issue of the *Iowa Medical Journal* it became the *Journal of the Iowa State Medical Society*, and this state thus abandons

the annual volume of transactions and enters the field with modern methods in reaching the members of that large and important organization. Fortunately, an arrangement was made with the journal which had a long and honorable record, and it is to be hoped that the new plan will prove beneficial to the members of the state society. We are glad to welcome the *Iowa Journal* to the ranks of those publications representing state societies.

CORRESPONDENCE.

Insurance Examination Fees.

Galesburg, Ill., Oct. 9, 1906.

To the Editor of the Illinois Medical Journal:

I inclose a copy of a resolution that has been passed by a number of the county societies in the state relative to the relationship of the members to the insurance examination fees.

I am inclined to recommend this form of action by the Jo Daviess County Medical Society, because it pledges each physician in the county, on the basis of a signed promise, as to what he will and will not do. The difficulty with the ordinary resolution relative to obtaining the concerted action of a large body of men is that the resolution is usually passed at a meeting where only a small part of the membership is present. Those that are not present sometimes have difficulty in knowing whether all of the members will really be bound by its provisions. As a result many good resolutions fail of their just intentions. This is obviated, in the largest measure, by obtaining the signature of every legally qualified practitioner within the confines of the county to the terms of the resolution. It can hardly be questioned that if a given practitioner in any county was sure that every other practitioner would live up to the provisions of such a resolution as this he would be only too glad to remain loyal to his fellows in their stand against what is a most unjust act upon the part of the New York insurance companies.

The only part of a resolution such as this which can be at all questioned is the last clause. Whether moral suasion is not, after all, a more desirable method of accomplishing a reform than possible ostracism must be left to the judgment of the counties who in the future will act upon this and similar matters that must come up for the good of the majority. There is need of laying especial stress, it seems to me, on the absolute necessity of each individual being loyal to the action of the majority of his fellows.

Some of the worst mistakes on the part of physicians is the lack, too often, of this very loyalty to a principle which, if adhered to, would push up the whole profession. Again, a small minority in this way will

sometimes delay what would have been for the good of all had it been enthusiastically adhered to by all.

Permit me to add that, in so far as it is possible for me to do, I want to visit as many county societies as I can during my term of office. Unfortunately, there are too many county societies on paper only. A strong organization should be, and finally will be, in existence in each county of the state. I wish it were the rule with the secretaries of the county societies to make provision for the attendance of the Councilor of their district at each of the meetings. Many times these meetings are held, and the Councilor, who usually has no means of knowing when it occurs, learns of the meeting weeks afterward. This is a distinct loss to the organization as such, and should not be allowed to occur.

Sincerely, J. F. PERCY.

JO DAVIESS COUNTY RESOLUTIONS.

Owing to the reduced fees that the Insurance Companies have been imposing upon the physicians of the country;

The Jo Daviess County Medical Society, in regular session assembled in Warren, Illinois, July 12, 1906, passed and subscribed to the following resolution:

Resolved, That we, the undersigned members of the Jo Daviess County Medical Society and all other reputable physicians of said county, do hereby agree by subscribing our names to this resolution, that we will not make an examination for any old line life insurance company for less than five dollars ($5.00) nor for any mutual or fraternal insurance company for less than two dollars ($2.00), and that any physician who would violate this resolution should be deemed unworthy to be met in council.

E. M. BENCH, Pres., Galena, Ill.
A. F. BUCKNAM, Warren, Ill.
J. C. RENWICK, Warren, Ill.
A. C. CZIBULKA, Warren, Ill.
U. S. G. KELLER, Warren, Ill.
S. H. HILLIARD, Warren, Ill.
C. E. WRIGHT, Scales M'd, Ill.
G. E. MILLER, Hanover, Ill.
F. W. BOOTS, Hanover, Ill.
G. H. COTTRAL, Hanover, Ill.
PHILIP ARNOLD, Elizabeth, Ill.
A. T. NADIG, Elizabeth, Ill.
G. M. TYRRELL, Elizabeth, Ill.
S. G. KREIDER, Lena, Ill.
T. J. STAFFORD, Stockton, Ill.
I. C. SMITH, Stockton, Ill.
N. A. KAA, Stockton, Ill.
F. K. KOLB, Apple River, Ill.
A. C. PHILLIPS, Apple River, Ill.
S. BIRKBECK, Gratiot, Wis.
H. T. GODFREY, Galena, Ill.
H. F. GUNN, Galena, Ill.
A. WEIRICH, Galena, Ill.
C. L. HOFFMAN, Galena, Ill.
A. GRASSAU, Galena, Ill.
W. A. SMITH, Galena, Ill.
M. H. CLEARY, Galena, Ill.
D. G. SMITH, Secy., Elizabeth, Ill.

The above is an exact copy of resolution and signers on file in the Secretary's office.

Resolutions of Respect.

Whereas, The Effingham County Medical Society has recently been called upon to chronicle the loss of its most worthy president, Dr. Sumner Clark; and,

Whereas, Death has again invaded our much-loved Society, removing from the fraternal circle the familiar figure of our friend and co-worker, Dr. H. G. Van Sandt; therefore, be it

Resolved, That we once more desire to express our sense of loss and bereavement at the sudden demise of one so universally admired for his sterling qualities as a citizen; for his rank as an able and honored physician; for his enviable record as a soldier and patriot, and for the traditions which have distinguished the name of Van Sandt as champions of the downtrodden and oppressed. We would further voice our appreciation of the deceased as a gentleman who we delighted to honor and as a brother in the profession who was singularly gifted with a virility of character and a vivacity of intellect and a pleasing optimism which were inspiring and wholesome. And be it further

Resolved, That we extend to the family of our departed brother all the condolence and sympathy of which the human heart is capable. And be it further

Resolved, That we preserve these resolutions in the archives of the Society as a memorial of our regard for him who hath passed into eternal silence.

J. N. Matthews, M.D.
C. F. Burkhardt, M.D.
J. B. Walker, M.D.
Committee.

Chess Tournament for Physicians.

Lorain, Ohio, Oct. 4, 1906.

To the Editor Illinois Medical Journal:

Numbered among your readers are scores of chess players. Therefore, we ask you to give space to the enclosed notice in your next issue. Trusting to be favored and thanking you in advance, I am very truly,

F. B. Van Nüys, M.D.

To Chess Players.

The Tri-State Chess Association, an association numbering over four hundred players, the majority of whom reside in the Central States, is arranging a correspondence match at chess of the Doctors versus the Laity. It is desired to have physicians from every section of the United States engage in the match. Therefore, every chess-loving physician is

hereby invited to become a consultant in the case. The match will begin early in November. All who will play are urged to send name and address to the president of the association, stating how many games they will take on. Address Dr. Van Nüys, President, Lorain, Ohio.

COUNTY AND DISTRICT SOCIETIES

CARROLL COUNTY.

The Carroll County Medical Society met in Woodman Hall, Savanna, September 25. There were present: Drs. Burton, Colehour, Clay, Freas, Gray, Hunter, Johnson, Lyness, Maloney, McGrath, Mershon, McPherson, Metcalf, Porter, Powers, Rice, Schreiter, and Dr. Harold N. Moyer, of Chicago. Dr. Moyer gave an informal but very interesting address on Protection for Physicians. He advised keeping records and dates of professional service, whether charity business or not. A legal set of books or a daily journal can then be used as evidence in courts of law. He said that a physician is not obliged to take a case, but a contract begins if he does take it. A man must have only the learning and skill that is common among physicians of the community in which he lives; but he must pursue his case with diligence and such judgment as is required in ordinary walks of life; then he is not guilty no matter what results—a leg may be crooked as a ram's horn; a bladder may be infected; or blood poison follow, but it is not a case of malpractice.

The Savanna doctors entertained their guests at dinner. The meeting was the most interesting that we have had. H. S. METCALFE, *Secretary.*

CLAY COUNTY.

The Clay County Medical Society met at Louisville, Tuesday, Sept. 11, 1906, at 1 p. m. The following members were present: Drs. Fairchild, Bowman, Gibson, Boyles, Steely, A. J. Shore, J. P. Shore and Duncan.

Dr. N. W. Bowman read a paper on

TETANUS.

In reporting this single case of tetanus to you, I shall not attempt to go into a description of this disease, but will give you a rather incomplete report of my experience with a case.

McK., male, white, aged six years, a healthy, well-developed child, was brought to my office on the morning of May 17. His father came to my office door and finding me in, went to the buggy and tried to get the child out. His failure to do so led me to the door to discover the cause. I found the following conditions: The boy was sitting in the buggy with his head turned to the left, his face shielded by his left arm, his right hand was in a sling, his lips were tightly compressed. I asked him to put out his tongue. This he tried to do and the tip of his tongue was seized between his teeth and would have been badly bitten but for quick action on my part. His right arm was stiff and the prick of a hypodermic needle brought on a terrific convulsion. Upon attempting to remove him from the buggy, he became rigid and it was necessary to turn him endways to remove him. When he was laid on a chair in my office, opisthotonos developed and continued until he was under heavy chloroform anesthesia.

Previous History.—Thirteen days previous the patient, while playing with a rusty speed-jack, had his right thumb caught in the cogs and received a lacerated wound of the thumb, extending on both the dorsal and the palmar surface from the tip to the middle of the third phalanges. On the evening of the ninth day following the injury, the patient complained of a sticking sensation in his throat; this he attributed to a piece of oyster shell that he had probably gotten in his throat while eating some oyster soup for supper. On the tenth day he complained of both sides of his throat feeling sore. On the next day, he complained of soreness on both sides of his throat and of not being able to open his mouth easily. During the afternoon and evening he complained of backache. That night he could

not sleep for backache. The next morning he complained bitterly on the way to town of the roughness of the road. The thumb, upon examination, while badly disfigured, had healed over. Under anesthesia, I incised both wounds, freely carrying my incision from the third joint down to the tip. The nail had been misplaced by the injury. I removed it and cauterized both wounds freely with pure carbolic acid and applied a dressing. Before removing him from the buggy I had given him morphia and atropia. After finishing the dressing about 1 p. m. I had him removed to the house of a relative in town about 1:30 and gave orders that he should have more chloroform in case convulsions again developed. While being moved he was conscious and talked with his father about a new rifle. The jaws were firmly set. At this time the head was held straight.

At 3:30 p. m. he had a convulsion of such violence that it threw him from the cot on which he was lying to the floor. This was followed in thirty minutes by another as hard as the first. When I got to him he was on the floor on his knees between two people and said that he could not straighten out. The muscles relaxed under chloroform and I had him placed on a mattress on the floor. The pulse at this time was 130, temperature normal. I had given him at 1:30 tr. gelsemium gtt. 2. This I repeated every three hours up to midnight that night without any effect. At 1 a. m. Friday I gave him 10 c.c. of Parke, Davis and Co's. anti-tetanic serum. The convulsions came on every four hours, Thursday afternoon and night.

Friday morning: Patient in convulsions, when not under chloroform. Following a dose of 10 grains of chloral the patient would relax for three hours to rouse in a terrific convulsion without any warning whatever. The serum was repeated Friday noon. Pulse 125, temperature 101 F. The patient had twelve convulsions on Friday. He lay on his back with feet outstretched, toes curled under, arms bent at the elbow and drawn to the side. Any attempt to change the position was followed by a convulsion. Serum injected Friday night at midnight. Patient restless, unless under deep anesthesia, very irritable. Pulse at midnight 130, temperature 103 F. Serum was used at nine o'clock Saturday morning. From this time on serum was used every four hours. Saturday, 2 p. m., temperature 104 F., pulse 140. The patient was as stiff as a board. No attempt was made to give nourishment by mouth; only a few drops of water, as any effort at swallowing was very difficult. Eggs and milk were given by enema every six hours.

The number of convulsions grew less on Sunday. The patient's bowels moved for the first time since Thursday morning, large quantities of gas coming with it. Up to this time he had passed water involuntarily. Temperature on Sunday was 103 F., pulse 125. From Sunday morning there was no chloroform given, as the heart showed signs of weakness. An effort was made to keep patient under chloral. This was not successful. The convulsions came on every five hours. The rectum had become irritable and would retain nothing. Patient had a restless night on Monday night, fussing to be turned over. He lay either on his back with his head drawn back or on his face. The patient was bathed in a profuse perspiration all night. Pulse 135; temperature 101 F.

Tuesday, convulsions at 10 a. m. followed an attempt to drink water. From this until Thursday patient had no violent convulsions. He was able to move arms and head slightly, but the head was turned to the right and could not be straightened. The legs were extended and abducted; toes curled and very sensitive. Wednesday patient had no convulsions; was very fretful; hungry and thirsty. Arms were freely movable; could not move legs while lying on face. Any attempt on part of others to move them brought on rigidity. Serum given every nine hours. On Wednesday bowels moved thoroughly. Passed urine voluntarily. Thursday a. m. patient somewhat improved; still clamorous for food. Thursday afternoon had hard convulsion, following irritation of rectum by injection. The serum was given at nine-hour intervals. As there were no other convulsions, serum was discontinued on Saturday morning. Patient slowly recovered use of limbs. Patient was discharged on the 27th of May. The stiffness of limbs and neck slowly disappeared and patient regained his normal health. Altogether, 28 doses of 280 c.c. of serum were given this patient, all after the thirteenth day of incubation.

In closing, I would say that I am thoroughly convinced that in the anti-tetanic

serum we have a certain cure of dreaded lock jaw, and failure is attained only because we do not give it early and often enough.

Dr. W. F. Fairchild, Flora, read a paper on Arthritis Deformans. General discussion followed both papers in which all present took part.

C. E. DUNCAN, *Secretary.*

COOK COUNTY.

STOCK YARDS BRANCH.

The Union Stock Yards Branch of the Chicago Medical Society held its first meeting, Thursday, Sept. 27, in the Eagle Trust and Savings Bank Bldg., 47th St. and Ashland Ave., with the President, Dr. C. P. Caldwell, in the chair. Dr. Richard J. Tivnen, Chairman of the Organization Committee, reported that he had divided the district into nine sections and has appointed twenty-eight gentlemen to assist him in obtaining new members.

The subject of the evening was Atypical Appendicitis. The paper was given by Dr. P. J. Tischart. Following the paper, there was a general experience meeting on this most important and common inflammatory intestinal affection. It was believed that everyone should know the double A. B. C. tip for typical cases; Acute Attack, Board Belly, Colic Constipation. It was stated that the general practitioner who diagnoses an atypical case is entitled to a fee equal to that of the surgeon who operates. The experience meeting was designed to consider this question.

A. T. HORN, M.D., *Secretary.*

SOUTHWESTERN BRANCH.

The Southwestern Branch of the Chicago Medical Society held its regular meeting Thursday evening, October 2, at 9 p. m., at Grace Café, 540 West 63d Street. The following excellent program was enjoyed by all present: Passive Hyperemia in Inguinal Adenitis, Dr. V. D. Lespinasse; Neuropathic Vesical Retention, Dr. E. N. Layton; with report of case of long standing.

DR. ALBERT E. MOWRY, *Official Reporter.*

NEUROTIC VESICAL RETENTION OF THE URINE,

WITH REPORT OF A LONG-CONTINUED CASE.

E. N. LAYTON, A.M., M.D.

Instructor in Clinical Neurology in Northwestern University Medical School.

CHICAGO.

Retention, or vesical retention of the urine, signifies inability to expel the urine from the bladder, although the amount excreted by the kidneys may be normal or increased. The act of micturition is a complex one and is, in a degree, both voluntary and involuntary. The spinal center is probably located in the lumbar enlargement of the cord and may be stimulated either by a descending cerebral impulse or, reflexly, by the full bladder; or the cerebral action with the conscious desire to urinate may itself be excited by the distended viscus. The sensory elements thus involved are the posterior roots of the lower sacral nerves. The vesicospinal center undoubtedly has a double function; it stimulates the bladder to contract and expel its contents, and at the same time inhibits the action of the normally contracted sphincter. The brain may stimulate either portion of this center.[1] In further discussing this subject, I shall take the liberty of considering the condition as if it were itself a disease instead of an emergency or complication liable to occur in the course of almost any disease.

ETIOLOGY.

Retention of the urine is caused by mechanical obstruction to the free escape

1. Kirke: Handbook of Physiology.

of the urine through the urethra or by interference with a part or with all of the nervous mechanism controlling the act. Mechanical obstruction may be due to calculus, tumor of the bladder, urethra or surrounding structures, urethral stricture, extreme phimosis, imperforate urethra, or traumatism. The discussion of these conditions belongs in the realm of surgery and will not enter into the present consideration. Retention due to nervous disorders is caused by sphincteric spasm from accidental or habitual over-distention (as in clerks, teachers, nymphomaniacs or masturbators[2]); by acute cystitis; or by sudden chilling.[3] It may also be caused, not so much by over-action of the sphincter as by atony of the muscular walls of the bladder due, most often, to repeated excessive distention, causing thinning and atrophy of the bladder wall; or to a long-continued chronic cystitis. It may be purely neurotic, either post-operative, post-traumatic or idiopathic. This accident of hysteria will be found associated and caused by a fixed idea or overwhelming mental impression.

PATHOLOGY.

The pathology is that of the bladder in a state of distention, plus that of the other structures suffering from this condition. The primary changes in the bladder are, first, atrophic and degenerative; and, second, inflammatory. In the first stage, the epithelium is flattened and gradually all the coats of the bladder-wall become thinned and later atrophic, from the more or less constant stretching to which these tissues are subjected. Probably the muscular layer suffers the most, owing to its structure, which is loose, somewhat delicate, with fibers widely separated and not powerful even in health. It is questionable whether decomposition of the retained urine and the inflammation which ensues could arise alone from the retention and consequent distention of the organ. Catheterization is necessarily resorted to after twenty-four hours of retention and before inflammatory reaction from pressure alone could become manifest. The lesions of cystitis, varying from a simple acute inflammation to that of a virulent suppurative condition, are almost invariably present and are believed to be due, in almost every case, to the necessarily oft-repeated use of the catheter; so that it has become almost a law that frequently repeated catheterization means cystitis eventually. Our army of prostatic cases furnish a dreadful testimony to this fact. The lesions in other organs, due to urinary retention, are dilatation of the ureters, hydronephrosis and often pyonephrosis; and the gastrointestinal changes dependent upon the accompanying constipation.

SYMPTOMS.

The clinical manifestations of retained urine are few but distinct. Subjectively the patient complains of pain, fulness and discomfort in the lower abdomen, a feeling of weight and oppression in the stomach, sometimes accompanied by nausea and vomiting; usually the desire to urinate is progressively urgent. Palpitation of the heart is frequent as are headache and a bearing-down backache, the pain radiating to the shoulders and down the thighs. If the kidneys become involved, especially if infected, the symptoms of disease of these organs are added. In women, dysmenorrhea and dyspareunia are, for obvious reasons, often associated. The objective signs are, in brief, absence of voluntary urination; suprapubic fulness, which is painful to pressure, dull on percussion, does not change with change of posture and which completely disappears when the urine is drawn; a large amount of urine (30 to 50 ounces) obtained by catheter daily, which operation entirely relieves the symptoms; and finally, absence of any evidence of kidney disease or other lesion causing a true suppression of the urine.

DIAGNOSIS.

The diagnosis depends upon the absolute findings just enumerated, together with the exclusion of all manifestations of suppression. Given a case in which no urine is voided but in which nearly or quite the normal quantity for twenty-four hours is obtainable by catheter and which, on examination, shows no evidence of

2. Lydston: Text-book of Genitourinary Diseases.
3. Purdy: Practical Urinalysis.

renal insufficiency, it may properly be regarded as one of purely vesical retention. The differentiation of the cause of the retention is more difficult. It is the object of this paper to consider only that due to nervous insufficiency of the urinary apparatus, omitting a consideration of the differentiation of mechanical retention caused by all of those means outlined above. When referable to the nervous control of the act or micturition, retention of the urine is due to sphincteric spasm, to vesical atony, to a true neurosis or to a combination of any of these conditions. The same conditions of the nervous apparatus cause both the spasm of the sphincter vesicæ and the atony of the bladder wall and they are usually associated; these have been discussed under the head of etiology, viz., habitual or accidental over-distention of the bladder; cystitis, acute or chronic; obstetric accidents or injuries; or an organic lesion of the nervous system, such as a true paralysis. Partial or complete retention for a variable time is of more or less frequent occurrence in meningitis, in the first stage of anterior poliomyelitis, early in some cases of cerebral or cord hemorrhage, in myelitis, sometimes in tabes, and has been encountered in lateral sclerosis and in multiple sclerosis.[10] Of course, in these organic cases, the retention of the urine is only a minor feature of the case and its cause is usually readily traceable to the general condition. Hysterical retention occurs typically after some profound mental impression, such as an emotional storm, an accident, injury or operation. In diagnosticating this condition as such, it is essential first that all other possible causes for the condition be eliminated. With a history of some great emotional shock, such as fright, joy, grief; a slight street-car or railway accident; or any surgical procedure, followed immediately by complete retention of the urine; together with finding the usual stigmata of the grand neurosis, and in the absence of the other possible causes mentioned above, the diagnosis of neurotic retention is justified. It is essential to elicit both the subjective and objective evidence of the neurotic condition and to establish the existence of the fixed idea, which latter is practically always present but often really unknown to the patient.

PROGNOSIS.

The prognosis in neurotic retention is almost invariably good with proper handling of the case, although sometimes the course is so prolonged as completely to disgust both patient and attendant.

TREATMENT.

The therapeutic measures employed are of much less importance than the manner of their exhibition. The condition is due to a fixed idea of such proportions that its overthrow and removal can only be accomplished by the substitution of another just as positive and overwhelming. Of the multitude of drugs recommended, probably the alkaline diuretics internally, with a strong, burning liniment and hot applications locally are the most efficient. It is best to direct the patient to take small, definite doses of the internal remedy, preferably by carefully counted drops, much diluted, and at very exact intervals; this medication, coupled with an abundance of assurance and confidence on the part of the attending physician very frequently suffices, for in this particular neurotic manifestation, as in fact in almost any other, every statement must be absolute, unqualified and convincing; on this depends the result. When the patient has not seemed sufficiently impressed by other means, local applications of farradism, galvanism or of the static spark or spray may give very gratifying results. In tractable cases, simply leaving the patient on the bed-pan with the assurance that it will be removed only after he has urinated, has often been successful. Powerful suggestion is, therefore, the key to the situation, and will be found successful in one way or another. Hypnosis may be tried as a final resort and in some cases it has given splendid results, while failing completely in others.

In looking for cases of this sort, I have found the literature of the past few years very meagre. Valentine and Townsend,[4] in discussing the treatment of re-

4. Valentine and Townsend: Med. News, vol. 84, June 18, 1904, p. 1168.
10. Church and Peterson: Nervous and Mental Diseases.

tention, mention this condition as possibly occurring from a nervous disorder and do not discuss it.

Gordon[5] describes a case of hysterical anuria followed in a few days by vesical retention, both conditions being cured by liniments and powerful suggestion; each condition lasted two to three days. He comments upon the comparative rarity of the condition, of which he saw three cases in three years spent at La Salpetiere. He quotes a report of one case cited by Guisy[6] in an observation covering five years. Gordon discusses at some length the theory of the causation of the condition and believes in the amœbism theory of Rückhard.

Aldrich[7] cites numerous cases of patients who were unable to urinate under certain conditions; e. g., that of a boy who could not urinate in a dark room, but who had no trouble if in the dark out of doors; of a girl, on the other hand, who could not urinate except in a darkened room; and several other cases of neuroses affecting both urination and defecation. He used suggestion chiefly in treating these cases. Diller[8] mentions difficult or impossible urination in a case of major hysteria, which recurred frequently for short periods. Pearse[9] discusses the operative treatment of retention in the male when due to spasm, "contracture of the bladder-neck," urethral stricture and prostatic hypertrophy. Paralysis is the only nervous condition mentioned as having any bearing on urinary retention. Lespinasse[11] considers the treatment of acute retention from the surgical standpoint and presents some excellent details of treatment.

The following case is, perhaps, of sufficient interest to warrant a detailed report, chiefly because of its long duration and the absence of cystitis after more than one hundred consecutive catheterizations.

Mrs. W. J. N., a large robust blonde of 28 years; about five feet seven inches tall and weighing 175 pounds; married ten years; has two children, eight and three years old; had two abortions, accidental (?), between these two children and one since the birth of the younger; the first child is said to have weighed but three pounds at birth, the younger twelve pounds; both labors were normal, the second being very long and hard; patient has no knowledge of any obstetrical laceration.

Status præsens. Large, fleshy woman, rather indolent and plethoric in general appearance; tongue is clean and protruded in a straight line, without tremor. Temperature 98.6 F., pulse 70, respiration 14. Bowels are somewhat constipated; patient complains of much "belching and bloating"; appetite is variable. Heart and lungs are normal. Subjectively, there are constant headache and backache of a dull, depressing character; pain in the lower abdomen, which increases in severity as the bladder fills, at which times patient is unable to extend the right leg; a feeling of fulness and oppression about the heart with an occasional "sinking-spell," *globus hystericus.*

Objectively, the skin is generally sensitive, with excessively tender points at the knees and in the mid-dorsal and ovarian regions. The backs of all of the fingers of the right hand are anesthetic; there are many hot and cold spots on the extremities; dermatographia is marked; taste and smell are normal. The pharyngeal and plantar reflexes are almost wanting; all other reflexes are normal. The rather prominent eyes are well covered by the drooping lids; the visual fields are bilaterally contracted and the color formulæ are reversed in both fields. Sleep is extremely variable; memory normal; patient is emotional, and fits of laughing, crying or of intense anger are not infrequent. There is a perineal laceration of the first degree; the cervix is also deeply torn transversely. A large sound enters the bladder freely and is not opposed by obstruction or sphincteric spasm; the kidneys are not palpable. The urine is acid, has a specific gravity of 1.022, contains no casts, blood, pus or albumen; there are some epithelial cells.

5. Gordon: Med. Rec., vol. 58, 1900, p. 289.
6. Guisy: Progres Médicale, 1898, viii, 3 s., p. 84.
7. Aldrich: Am. Med., vol. v., No. 13, March 28, 1903, p. 489.
8. Diller: Med. Rec., vol. lxvii, No. 19, May 13, 1905, p. 736.
9. Pearse: K. C. Med. Index-Lancet, vol. xxvi, No. 304, April 1905, p. 134.
11. Lespinasse: Ill. Med. Jour., Dec. 1905, p. 524.

Family history is entirely negative; the patient's father died when she was very young; the mother is living at 45 years and is in excellent health; there is no trace of nervous, mental, alcoholic or syphilitic taint.

Past History. Patient has had tonsillitis all her life and has been very prone to colds; there have been no serious illnesses. When she was sixteen years old, she had an attack of retention of the urine lasting a week. Half a dozen doctors were called to attend her in as many days and the seventh prescribed a very black and bitter medicine of which the patient was to take a few drops every hour. The attack was cured in a very short time, due to the marvellous effect of the black, bitter medicine. The tonsils and the adenoids were removed last spring, since which time she has had no further throat trouble.

Present illness. On April 1, last, patient had a curettement performed in hospital for chronic endometritis. The following two days were uneventful, the urine and feces being voided naturally. On the third day after the operation, patient stated that no urine had been passed and the nurse in charge was not aware that any had escaped. The next day clear, sterile water was substituted for the half per cent. lysol solution previously used for the daily vaginal douches. Following this irrigation, the fluid in the douche-pan was found to be much in excess of that formerly in the irrigator and to have acquired a strong urinous odor and color. This was called to the attention of the patient after she had insisted that she had not urinated. During the remainder of the patient's two weeks' stay in the hospital, sterile water douches only were used, but on no subsequent occasion was the urine passed voluntarily. The patient was catheterized twice daily and the amount thus obtained was normal for the twenty-four hours—30 to 50 ounces.

Urine was henceforth drawn by catheter once and sometimes twice a day until May 1, just one month after the operation. During this time, all the various measures above mentioned in the treatment of such cases were tried, except the use of electricity. Even hypnosis was resorted to on several occasions and although otherwise the subject was under perfect control, there was no more effect obtained upon the urinary apparatus than had been gained by the medicines, liniments, etc., previously employed. During all this time, the normal amount of urine was obtained by catheter and repeated careful examinations showed no trace of vesical inflammation or infection.

On May 1, in consultation with Dr. Hecht, the urinary meatus was forcibly divulsed to the extent of two centimeters with the tips of an ordinary uterine dressing-forceps. The patient was assured that this manipulation, although painful and disagreeable, would be followed at once by voluntary urination. The effort was entirely successful and the patient passed a large quantity of urine. She was told that her trouble was now at an end and she need have no fear of a recurrence. We were too sanguine, however, as the some procedure had to be repeated on each of the three succeeding days, with the same free and immediate result. Thereafter, there was no response to this treatment and the catheterizations had to be resumed.

One week later I took the patient to Dr. Church, who applied the static breeze over pubic and vulvar regions; there was no response. Three days later, I passed an ordinary female sound into the bladder and applied the same static current through this medium. After three or four minutes the patient expressed a desire to urinate but was made to endure the current for two minutes longer until she was apparently in great distress. On retiring to the toilet room she passed a large amount of urine without any effort. For the next three weeks this method was successfully employed on alternate days, the patient claiming that no urine was passed at any other time. Of course, the catheter was used on the intervening days.

On June 1, the younger child of the patient had an attack of diphtheria, which prevented the use of the static treatment for three weeks. This great distraction of attention from herself, however, was not sufficiently suggestive to allow of voluntary urination.

On June 21, the use of static breeze was resumed, but on the first day had no effect and the catheter had to be used. Thereafter, however, urination was possible

after two to five minutes exposure to the current through the steel sound in the bladder. One week later, June 29, the sound was omitted, the current being directed against the pubic, vulvar and hypogastric regions; patient urinated voluntarily after ten minutes' treatment. After this, the sound was not again used and voluntary urination was free and painless after a few seconds exposure to the current.

On July 7, fourteen weeks from the date of the operation and onset of the retention, the patient called me up on the telephone and said the urine had escaped involuntarily during the night and had been passed voluntarily every two or three hours during the present day. Some difficulty was experienced the following day and it was necessary to use the catheter. Since then the act of micturition has been entirely within the control of the patient; has not been too frequent and is entirely free and painless.

The case has been recited at length because of its undoubted neurotic character and etiology; because of its very long duration (over three months); on account of the failure of hypnosis in a case of that class which is supposed to be especially amenable to such treatment; and, finally, the unusually long, regular use of the catheter without the production of any symptoms of cystitis.

1125 West 51st Street.

DEWITT COUNTY.

The Dewitt County Medical Society convened in the County Court room Wednesday, Oct. 9, 1906, at 1 p. m. In the absence of President J. M. Wilcox, the Vice President, Dr. John H. Tyler, occupied the chair. The minutes of the last meeting were read and approved. Dr. E. Mammen, of Bloomington, entertained and instructed the Society with an interesting address on The Value of Early Diagnosis, which was discussed by Drs. McClelland, Dowdall and E. E. Hagler, of Springfield. Then followed a Symposium on Labor. Dr. W. E. Chalstran gave his views on The Use of Anesthetics in Labor. Dr. G. G. Dowell discoursed on When to Use the Forceps in Labor, and Dr. John H. Zeigler, of Farmers City, pointed out clearly The Most Serious Complications of Labor. These excellent papers were freely commented upon, Dr. W. E. McLellen opening the discussion, and a full and free discussion was participated in by nearly all present. Chloroform was favored as the best anesthetic. The indications for forceps were clearly shown. Prolapse of the fundus, postmortem hemorrhage and eclampsia received attention as the most serious complications. Bleeding and hypodermic injections of morphia proved effective remedial agents for eclampsia in the hands of many.

The Secretary read the applications of C. S. Sanderson, Maynesville, John H. Zeigler, Farmers City, and H. E. Price, of Weldon. These applications were referred to the Board of Censors, who reported favorably and, on motion, they were elected members of the Society. Dr. H. E. Price, a graduate of the Eclectic School of Medicine, of Cincinnati, declared he practiced no exclusive system of medicine and was unanimously received as a member.

H. E. CAMPBELL, *Secretary.*

FULTON COUNTY.

The ninth annual meeting of the Fulton County Medical Society was held in the parlors of the Churchill House, Canton, Oct. 2, 1906. In the absence of President Plummer and Vice-President Chapin, Dr. Sutton was called to the chair. Dr. C. D. Snively was chosen secretary, *pro. tem.* The following officers were elected: President, Dr. L. R. Chapin, Canton; First Vice-President, Dr. G. R. Blackstone, Table Grove; Second Vice-President, Dr. A. C. Cluts, Ellisville; Secretary-Treasurer, Dr. D. S. Ray, Cuba; Necrologist, Dr. P. H. Stoops, Ipava; Membership Committee, Dr. G. S. Betts, Banner; Censor, Dr. E. W. Regan, Canton; Delegate to the State Meeting, Dr. T. C. Hayes, Canton. On motion, Dr. Hayes was empowered to appoint his alternate. On motion, the protective feature of the state society was

adopted. Article IV of by-laws was amended to read as follows: "The yearly dues shall be $3.50, which shall include membership in the Illinois State Medical Society, one year's subscription to the ILLINOIS MEDICAL JOURNAL and one year's mal-practice protection."

Adjourned for dinner. Twenty-three physicians and ladies enjoyed the very sumptuous dinner especially prepared for them by Landlord Boyle.

The afternoon session was called to order at 1:30 p. m., President Chapin presiding, Secretary-Treasurer Ray present. Dr. Shallenberger presented a paper on Organization that was well received and profitably discussed by all present. Dr. Regan presented a very interesting paper on Eye Strain. The president appointed the following program committee: Scholes, Stoops and Snively. Drs. Coleman and Shallenberger moved that this society commend the efforts of the State Board of Health in securing pure food products and to call their attention to the inaccuracies in the list of physicians of Fulton County in the directory published by them. Carried. The program committee reported the following which was adopted for the December meeting: Ulcers of the Lower Extremities, Dr. D. D. Waggoner, Lewistown; Pneumonia, Dr. E. S. Parker, Vermont; Hemorrhoids, Dr. V. C. Morton, Ipava; Smallpox, Dr. Robt. Ewan, Smithfield.

The membership committee reported favorably on the applications of Drs. Lloyd Boynton, of Vermont and H. C. Putnam, of Canton. On motion, bill of the Cuba Journal for $5.00 was allowed and ordered paid. The secretary-treasurer's report was read and accepted. The report showed a balance of $59.65 on hand. Drs. Shallenberger and Sutton moved that the secretary be instructed to pay for the annual dinner and entertainment out of the society's funds. Carried.

The following members were present: L. R. Chapin, Canton; J. E. Coleman, Canton; C. D. Snively, Summum; P. H. Stoops, Ipava; P. S. Scholes, Canton; Robt. Ewan, Smithfield; J. E. Sutton, Canton; Martha Richardson, Canton; Veda C. Murphy, Cuba; A. C. Cluts, Ellisville; E. W. Regan, Canton; W. E. Shallenberger, Canton; P. B. Goodwin, Summum; E. S. Parker, Vermont; H. Putnam, Canton; T. C. Hayes, Canton; G. S. Betts, Banner; D. S. Ray, Cuba.

The following collections were made:

T. C. Hayes	$3.50	E. S. Parker	$3.50
Martha Richardson	3.50	J. E. Coleman	
E. W. Regan	4.00	P. H. Stoops	4.00
A. C. Cluts	.50	V. C. Motton	4.00
E. W. Shallenberger	4.00	P. S. Scholes	4.00
J. E. Sutton	4.00	C. D. Snively	4.00
L. R. Chapin	1.50	W. R. Blackburn	3.50
P. B. Goodwin	3.50	D. S. Ray	4.00
Robt. Ewan	3.50		
		Total	$59.00

DISBURSEMENTS.

Cuba Journal	$ 5.00
22 dinners	11.00
20 opera tickets	10.00
Total	$26.00

Twenty members and ladies attended the opera.

On motion the society adjourned. D. S. RAY, *Secretary-Treas.*

JACKSON COUNTY.

The Jackson County Medical Society held an interesting meeting in the parlors of the Logan House, Murphysboro, Thursday, October 18. The following program was rendered: Extra Uterine Pregnancy With a Report of a Case, Dr. H. G. Hortsman, Vergennes; Examination of the Blood as an Aid to Diagnosis, Dr. H. H. Roth, Murphysboro.

After these papers, a memorial meeting was held to the memory of our late Secretary, Dr. W. C. Hill, of Murphysboro. After a short memorial address by each member present, the following resolutions were adopted:

There comes in the life of every society a time at which it may wish to show respect to the memory of one of its deceased members; and such a time has now arrived in the life of the Jackson County Medical Society. Death, dreaded by all, is a visitor that each must at some time entertain, and though three score and ten years have been said to be the number allotted to man, some must meet this grim visitor at earlier periods of life; and such was the allotment, by the All Wise Creator, to our late Secretary, Dr. W. C. Hill.

Dr. Hill was allotted one score and five years, one-third of that which was promised to man, but his life work shows that the time given him was not wasted. Thrown upon his own resources early in life, he, undaunted and with courage, so moulded his character, that when he was called to his eternal reward, there was no man but who could say "friend." As a physician, he was learned, as a diagnostician, he was sure, as a therapeutist, practical, and as a surgeon, careful. As Secretary of this Society, he was enthusiastic, and ever ready to do the work necessary for its good or its advancement.

Reviewing his brief life, this committee can not help but offer, that in his death, his mother has lost a devoted son, the profession of medicine an honored practician, this Society an enthusiastic member, and the world a man.

It is recommended that a page of our minutes be set aside and dedicated to his memory, with a copy of this memorial and the date thereon. Further, recommended that a copy of this memorial be sent to the family of the deceased.

J. T. McAnaly, M.D.
Chas. Molz, M.D.
M. Atherton, M.D.
Committee.

JO DAVIESS COUNTY.

The regular quarterly meeting of the Jo Daviess County Medical Society was held in Galena, Ill., Oct. 4, 1906. The meeting was called to order and the following responded: Weirich, Wright, Kobb, Beuch, Nadig, Keller, Smith, W. A., Godfrey, Czibulka, Gratiot, Tynell, Ginn, Bucknaw, Smith, D. G., Guthrie, with Dr. Boots, of Hanover; Dr. Melhop and Pond, of Dubuque, Iowa, and Hoffman, of Galena, as visitors. The applications of G. H. Gottral, of Hanover; J. C. Renwick, of Warren, and F. K. Kolb, of Apple River, were voted upon and they were elected to membership. Applications were received from C. L. Hoffman, Galena; C. W. Melhop and A. M. Pond, of Dubuque, Iowa.

The first subject was Diphtheria. The essayist not being present, his paper was read by the Secretary. This brought on considerable discussion but it was unanimously agreed that all cases of diphtheria, or suspected diphtheria, should be treated early with antitoxin in doses ranging from 3,000 to 8,000 units, repeated as the case may require, to counteract the toxin, and also that the excretory organs be watched and stimulated if needed, especially the bowels, by the use of the mild chlorid of mercury.

Dr. Czibulka next read a paper on Some Eye Problems the General Practitioner Is Called Upon to Solve. This was discussed by Gratiot, Melhop, Godfrey and Guthrie, who thought that every practitioner should learn the use of the ophthalmoscope to aid him in making more correct diagnoses.

On motion, the Society year was changed to begin January 1, instead of April, to conform with the State Society and American Medical Association.

Dr. Tynell moved the following resolution, which was seconded by Dr. Guthrie:

Resolved, That the members of this Society heartily endorse the plan of reciprocity, whereby Illinois can reciprocate with states having equal requirements and qualifications as regards license issued from diploma the same as examination and that the Secretary be instructed to send a copy of said resolution to the Secretary of the State Board of Health.

The vote stood nineteen for, none against.

On motion, the Society adjourned, to meet in Stockton, in January, 1907.

D. G. Smith, *Secretary.*

McLEAN COUNTY.

The September meeting of the McLean County Medical Society was held in the Council Chamber of the City Hall, Bloomington, at 8 p. m., September 6. President Bath occupied the chair. The minutes of the July and August meetings were read and approved. Dr. F. C. Vandervort in a very interesting manner spoke of London as a Medical Center, while Dr. J. W. Fulwiler gave a Historical Sketch and Recent Observations in London Hospitals. Dr. E. P. Sloan read a paper on Quinin in Hysterical Labor Pains. He spoke of the difficulty of distinguishing between hysterical, false and true labor pains, and the injury which may come from giving quinin in hysterical pains. After some questions and discussion the meeting adjourned.

The October meeting of the McLean County Medical Society was held in the Council Chamber of the City Hall, Bloomington, at 7:30 p. m., October 4. The meeting was called to order by President Bath. The minutes of the last regular meeting were read and approved. The following resolutions upon the death of Dr. G. D. Elder, drawn by Drs. C. M. Noble, M. D. Hull and A. L. Fox, were presented, read and adopted:

WHEREAS, It has pleased Almighty God to remove from our midst Dr. G. D. Elder, who has long been an able and honorable member of our profession; be it

Resolved, That the McLean County Medical Society deeply deplore his loss and extend their sympathy to the bereaved wife and daughter; and be it further

Resolved, That a copy of these resolutions be sent to them and be spread on the minutes of the society.

Dr. J. B. Taylor spoke of the well, near the water works, into which Sugar Creek has been turned, as a very great menace to the health of the city through contamination of the water supply, and made a motion that the president of our society, together with two other members, to be appointed by the chair, use their influence with the health committee to have said well filled up. Motion seconded and carried. Dr. J. W. Smith referred to the advisability of having the books at the public library disinfected to prevent spread of contagious diseases. Dr. Hawks spoke of the inefficiency of formaldehyd. Dr. Taylor suggested the use of a closed chamber for disinfecting a few at a time, or, at least, those suspected of harboring disease germs. Dr. W. E. Guthrie, in an informal but entertaining manner, told us of what he had seen recently at the Mayo Brothers' Hospital, giving somewhat in detail the methods employed and the systematic way in which their work is carried on. The following members were present: Drs. Bath, Yolton, R. C. and J. L. Fox, A. L. and R. D. Hart, Guthrie, Taylor, Hull, C. M. Noble, Hawks, Smith, J. W. and Lee Welch, Howell and Rhodes.

Meeting adjourned.

T. W. BATH, *President*.
C. M. RHODES, *Secretary*.

MACOUPIN COUNTY.

The semi-annual meeting of the Macoupin County Medical Society was held in Carlinville, October 16, President J. N. English, of Gillespie, in the chair. The action taken by the Pike County Medical Association, protesting against reduction of examination fees for examining applicants for life insurance by the old line companies was indorsed. The resignation of E. A. Bleuler as secretary of the County Medical Society was tendered and accepted. The Board of Censors, consisting of Drs. Gross, Fischer and Pattison, appointed Dr. J. Palmer Matthews to the office of secretary. The Board of Censors appointed three members to furnish the program for the next meeting to be held on the fourth Thursday in January, 1907. The proposed amendment to Act XL, providing for quarterly meetings instead of semi-annual meetings was freely discussed and then unanimously adopted.

Dr. J. A. Hartman, of St. Louis, presented a number of very interesting post-mortem specimens, with a very interesting essay on Rupture of the Stomach Due to Gastromalacia. Dr. Pattison read an interesting essay on Prevention and Treatment of Abortion and Dr. H. J. Davis read a paper on Typhoid Fever which

showed that he had read the authorities on that infectious disease very thoroughly. Dr. W. M. Gross read an interesting paper on Electricity and Its Manifestations in the Body.

MAN AND THE HOUSE IN WHICH HE LIVES.

W. M. Gross, M.D.
GILLESPIE.

The houses we live in, being the last designed by creative energy, contain everything found in the entire universe. When we get down to the basic principles of our existence, we are forced to the conclusion that ether (or Spirit, if you will have it that way), is a universal substance from which all the other forms of substance spring. As electricity plays a part in the mineral, vegetable and animal kingdoms by the sexation of the atoms of which they are composed, it is evident that it is the force that changes one form of substance to another. Metals are good conductors of heat and are positive in electricity; metalloids are poor conductors of heat and are negative in electricity. These two must come together before a third substance is produced in chemistry (sexation). It is known, in the vegetable kingdom, that the pollen must be conveyed from one plant to another before fruit is produced (sexation again). In the animal kingdom, both male and female are necessary before the species is reproduced. If this law holds good in the mineral, vegetable and animal kingdoms, it evidently holds good generally. Then sexation, like gravitation, is a universal law, the universal ether comes in with the air we breathe and assists in furnishing cells to build up and repair the houses in which we live, the more highly finished and vitalized cells are stored away for generative and regenerative purposes. Someone has said that ether is the father and hydrogen the mother of all things. Life is stored away in the seed and springs from the seed. The real germ within the grain is pure substance, therefore, invisible, we can only see its matrix. It is generally conceded by scientists that the cortical or external area of the human brain is the seat of intellect, but the brain alone is not the mind, only its organ; a piano is not the music, but an instrument out of which it may be evolved. The brain cells are very minute in character, ovoidal in form and connected together by muscular tissue under the control of the will. It is probable that impressions are photographed upon these brain cells in a similar manner to the indentions upon the waxed cylinder of a phonograph, and that they can be rubbed off again when occasion requires. It is also probable that no two of these brain cells are alike in every particular; then it is reasonable to conclude that the impression made upon one cell would differ from that made upon another, and for this reason the human judgment is closely related to the structure and tension of the brain cells. The diaphragm of a telephone receiver is made of iron, and if of good material, properly polished, it serves the purpose well for which it was designed. This will apply to the brain cells, that is, if they are of good material by nature and properly polished by education, they become good transmitters of thought. The earth is the negative and the atmosphere the positive pole of the plant. The blood is the negative and the atmosphere the positive pole of man. Along this line, we know that a man may stop eating for a while and still remain in his house, but as soon as he stops breathing, he is compelled to move out. The cerebrospinal and sympathetic nervous systems are composed of two structural elements—cells and fibers which differ in function in that the former generate and conduct nerve force, while the latter merely conduct it. In wireless telegraphy the conducting medium is no less materialistic than the wires of the ordinary telegraph or the nerves of the human body. When in a normal condition, man occupies every room in his house from basement to garret, in fact, every room is so full that we are permitted to say that there is an ethereal as well as a material man. Along this line, we can see that a thought may be registered partly upon the material and partly upon the ethereal cell (intuition). If the circulation is slowed up in the brain cell, it becomes as a piece of blank paper, ready for any impression (hypnotism), but if the material cell could be held completely in abeyance, the ethereal alone acting (clairvoyance), thought would be absolutely correct.

Dr. J. H. Mitchell read instructive notes on a case of hip joint disease, its symptoms and treatment.

The discussion of the several essays was participated in by all present and many interesting and instructive points were brought out.

This meeting was one of the most interesting, instructive and best attended meetings in the history of the Society. The members present were as follows: J. N. English, President; E. A. Bleuler, Secretary; J. H. Mitchell, Girard; R. S. Cowan, Girard; G. W. Morgan, Girard; G. E. Hill, Girard; C. E. Allen, Virden; E. K. Lockwood, Virden; E. R. Motley, Virden; Wm. M. Gross, Gillespie; C. D. King, Gillespie; H. A. Pattison, Benld; A. G. Kinkead, Greenfield; H. W. Gobble, Greenfield; C. R. Bell, Thayer; W. A. Trout, Atwater; F. H. Charles, Shipman; L. H. Corr, Carlinville; J. Pitt Matthews, Carlinville; John Palmer Matthews, Carlinville; J. C. J. Fischer, Carlinville; J. S. Collins, Carlinville; J. P. Denby, Carlinville; J. H. Davis, Carlinville; F. M. Wood, Carlinville.

MONTGOMERY COUNTY.

The Montgomery County Medical Society met in regular semi-annual session, Tuesday, Oct. 2, 1906. The program consisted of the business meeting and election of officers. A paper was read on Gastric Ulcer by Dr. W. H. Rush, of St. Louis, Mo. and a paper on Diphtheria by Dr. L. G. Allen, of Litchfield.

The following resolutions were presented and unanimously adopted:

WHEREAS, The legislature of the State of Illinois has found it necessary, for the protection of society, to pass laws restricting the indiscriminate sale and distribution of medicines by incompetent and unscrupulous itinerant vendors of the same; and

WHEREAS, We regard such practice of indiscriminate sale and distribution of medicines dangerous to the welfare of the public; and

WHEREAS, In order to evade the liability under said laws, we find that many druggists lend themselves to such fraudulent and incompetent purveyors of medicines by becoming sales agents for them; therefore, be it

Resolved, That we, the members of the Montgomery County Medical Society, condemn the practice of druggists who serve as tools and agents of such wandering frauds; and be it further

Resolved, That we regard druggists who stoop to such practice, as conspirators against said laws and unworthy of the confidence of the medical profession, and we deem it wise in the future to withold our patronage from all druggists who lend themselves to this nefarious traffic; and be it further

Resolved, That a copy of these resolutions be sent to every physician and druggist in the county, the secretary of the state board of health and the editor of the ILLINOIS MEDICAL JOURNAL, with recommendation that other societies take similar action.

The following officers were elected for the years 1906-7: President, P. M. Kelly, Litchfield; Vice-President, W. W. Douglass, Hillsboro; Secretary and Treasurer, H. F. Bennett, Litchfield; Board of Censors, M. L. Moyer, Hillsboro, Ill., W. A. Allen, Donnellson, Ill., T. J. Whitten, Nokomis, Ill.

MORGAN COUNTY.

The Morgan County Medical Society held its regular monthly meeting Thursday, October 11, at 8 p. m. Dr. Josephine Milligan presided. There were seventeen members present. Dr. Edward Bowe read a paper on Medical Education in Germany. Following is a brief abstract:

The advantages to be gained from medical study abroad by the younger members of the profession are largely dependent upon the individual. If he has had the proper preliminary and medical education at home and has advanced in general practice to such a degree that he is competent to realize and determine his

greatest needs in attaining the highest degree of success in his chosen line, or if he is conscious of the fact that he has deficiencies that impair or curtail his usefulness and if he undertakes a course of study to remedy these, he will be well repaid for his efforts. The recent graduate, with or without a limited hospital experience added, who depends upon study abroad to fit him for a specialty or a limited practice will be disappointed. In undertaking such study a definite plan of procedure should, as far as possible, be outlined. One should study the language of the country he intends visiting. The conversational method is preferable and soon gives a working vocabulary. This acquired, the grammar will be much easier and more interesting.

In selecting a medical center in which to study, much valuable information can be secured from those who have recently studied abroad, also by correspondence with certain medical book dealers who furnish information regarding the work done in their respective cities. For those who intend studying in Germany, the selection of a steamship line is a matter of some importance. The Hamburg-American or Nord Deutcher Lloyd lines are to be preferred, since, for a period of ten days or two weeks you are constantly associated with German Americans and Germans, thus becoming more familiar with the language and, in addition, many valued acquaintances are formed who will impart a wealth of useful information regarding the country you are approaching. For those who select the Hamburg-American line, Hamburg will be the first large city visited. It is the second city of the German Empire and much interesting medical and surgical work can be seen at the Eppendorfer Hospital.

As to the selection of a medical center and an explanation of the medical work that can be done in Germany. Good work can be done in any of the great medical centers, that is, where there is a university and a teaching staff, but one should endeavor to select the place most suited for the class of work he desires and above all to select good teachers. In Germany, post-graduate work is done in two ways, either by private instruction or by attending the large clinics. Private instruction is given either by the assistants of the professors in the universities or by men who have private hospitals. The amount of clinical material seems to be unlimited and is derived by men outside the large charity hospitals, chiefly from the "Casse" organizations that furnish medical and hospital care to certain classes.

The assistants of the professors and the heads of the departments in the large charity hospitals derive their material much in the same way as is done in America. The essayist's personal experience was that the men outside the schools furnished the best private instruction. The method of procedure in private instruction is that a class of four is formed and an instructor engaged for a specified time, usually one month. This instructor furnishes ample clinical material, teaches, in detail, the line you are following, and endeavors by actual demonstration to teach methods and principles desired. To explain more fully, a private course in gynecology will serve as an example. Two courses are given; one gynecological diagnosis, another in operative gynecology on the cadaver, and on the living subject, if you prove competent, as far as the minor operations are concerned.

In the diagnostic course, three hours for three days during each week are utilized. Each student is furnished a history of the case and allowed to make an examination at will; then the case is examined by the instructor and the diagnosis, pathology and treatment are thoroughly discussed. In the operative course on the cadaver, you are taught the technic and principles of all the operations that occur in gynecology and in addition, you are taught the use of local treatment, the introduction of pessaries, curettement, perineorrhaphy, trachelorrhaphy, and other minor operations on the living subject. This is an example of private instruction as carried out in every department of medicine and surgery in Germany. The larger clinics are conducted the same as the American and may be attended by asking the permission of the clinicians, but the better plan is to matriculate in the university.

Berlin, the largest city of the German Empire, affords unusual advantages, both for private and clinical instruction. The opportunities for observation and study in other lines are excellent. The Anglo-American Medical Society, composed of the English-speaking physicians in Berlin, affords pleasurable associations and also imparts detailed information regarding the work that can be done in Berlin. The essayist reviewed the various clinics and hospitals, also the work done in pathology and anatomy. He also spoke of the splendid opportunities for study in obstetrics to be had in Dresden and Leipsic. The private hospitals of Germany are not equal to those of America. The public hospitals are superior in structure, equipment and clinical advantages.

The Germans have beautiful equipment, instruments and appliances, but are not as good operators as the Americans. They make large wounds and operate in bloody fields and lack much of the mechanical genius that characterizes the Americans. Neither are they the equals of the Americans in the different branches of therapy. In pathology, the foundation of rational diagnosis, the Germans are masters. In diagnosis, the corner-stone of medicine and surgery, they excel all others.

Six months' work can be done in Germany for $1,000.00, allowing for transportation and all incidentals. The advancement in the profession and the many valuable lessons to be learned by travel and association with the people of other countries make much study invaluable.

Dr. Carl E. Black, who has just returned from spending the summer in Germany, spoke briefly on some of the differences between American and English and German surgery. One of the first things he noticed in Germany was the apparent lack of personal preparation by the surgeon himself. He saw many operations performed by eminent surgeons making none of the elaborate preparations made by surgeons in America. There were no operating suits; no operating-room shoes, excepting heavy overshoes; no face covers; few caps and no change of clothing on the part of the surgeon or assistants. They simply took off their coats, rolled up their sleeves, thoroughly prepared their hands and arms and went to work. The same was true in England. The patients, however, were perhaps even more carefully prepared than with us. For abdominal operations they came into the operating room prepared in advance, not by nurses, but by assistant physicians, and bandaged from breast to knee. No other clothing or covering came into the operating room—no sheets, blankets or gowns.

Another point of difference was the lack of separation of clean and septic cases for operation. The septic were often operated upon at the same time and in the same room at adjoining tables with clean cases. In Von Bergmann's clinic, operations for appendicitis followed immediately after an exhibition of a number of cases of varicose ulcers. The question, of course, arises: "Have they discovered that many of our precautions are unnecessary, or do they simply disregard some of the minor details of technic?" There is comparatively little in German literature of statistical results. The German is more devoted to diagnosis and pathology and has less regard for the statistics of results. Dr. Black believed that statistics as carefully kept as those of some American surgeons would show that the precautions taken by American surgeons lower the death rate.

In the Charité Hospital they have a beautiful amphitheater with all modern conveniences, and the same careful preparation of patients, but frequently the same disregard of the sequence of septic and clean cases. The work of the German surgeon is well done, but not so rapidly, and, on the whole, not so skilfully as that of the American surgeon. The American surgeon is less deliberate in his work—more Yankee ingenuity.

In Prof. Israel's clinic, in Berlin, the observers crowd about the operating table in their ordinary clothes; and are never offered gowns, and Israel, himself, never covers his beautiful whiskers or hair, and except on hot days does not even doff his collar. His work, however, is marvelous to behold. "Israel's incision" in kidney operations lays bare at one stroke almost the entire kidney. His skiagraphs of renal calculi are the best in the world. He makes one of each case before operating, which shows the location, shape and size of the calculus.

In the Charité Hospital, in Berlin, there is a surgical gymnasium containing many mechanical appliances for increasing the motion of stiff msucles, joints, etc. A patient's disability is gauged and recorded from time to time. In accidents involving insurance and the like the disability of the patient is rated here in percentages of normal by the surgeon.

There seems to be a very much smaller proportion of operations for appendicitis in Germany than with us. The patients were in the hospital waiting for the surgeon to decide whether to operate or not, consequently many of them were not operated upon. The Germans are now where Americans were ten years ago in the matter of operation for appendicitis. American surgeons look at the question statistically and decide that the earlier the patients are operated upon the more of them will be saved. The Germans look at each case individually and wait until they discover dangerous symptoms before operating. Dr. Black thinks the American plan causes more operations, but saves more lives.

English surgery may be said to be in the antiseptic stage. Carbolic acid and other antiseptics are still relied upon in a manner which the Americans and Germans have outgrown. The English make fun of our operating suits and many of the elaborate preparations made by American surgeons. English surgery is essentially conservative. Progress is impeded by this extreme conservatism. In King's College Hospital, some years ago, he saw the great Lord Lister operate, surrounded by all his antiseptic appliances, and to-day, the operator in the same hospital stands in an arena surrounded by the busts of Astley Cooper, Spencer Wells, Wm. Cheselden, Matthew Baillie, Percival Pott, Thos. Sydenham, Chas. Bell, Edward Bell, John Hunter, Wm. Harvey, Richard Wiseman, Wm. Furgeson, Lionel Beale and Joseph Lister, whose ghosts seem to hover in the atmosphere of the great hospital. In England, it would, in a degree, be treason to the memory of these great men to depart radically from the precepts laid down by them during their lifetime. Many things that we consider essentials are partly disregarded by the Germans and wholly so by the English. If statistics are to be trusted the results of American surgery are superior to either English or German.

In discussion, Dr. Hairgrove said he was surprised to hear some of the things that had been said regarding lack of care by German surgeons. They must have degenerated since he was in Germany. In Prof. Leopold's Obstetrical Clinic when he was there, each student before coming into the class, changed his linen, donned a gown, and before making a single examination, scrubbed his hands ten minutes by the clock. Dr. Bowe said that the same care is shown to-day in Prof. Leopold's clinic.

PEORIA COUNTY.

The Peoria Medical Society began its fall term in a very enthusiastic manner, Tuesday evening, September 4, by a paper by Dr. Leslie Rutherford, on Hyperchlorhydria. All the officers were present, also Drs. Marcy, Thomas, Hinckle, Green, Probst,Rutherford, Bacon, Roberts, E. L. Davis, Short, Bane, Floyd, Allison, Barbour, Collins, Weber, Miller, Kelley, Dowdall, Lucas, Hanna, Kerr, Kanne and Sidley.

The paper was a very interesting one, showing deep study, and met with discussion by nearly all present. The meeting on September 18 was a clinical meeting and was very largely attended. Dr. C. U. Collins presented specimens removed in a case of multiple fibroids of the uterus and a dermoid cyst of each ovary. The patient had menstruated regularly, normally and without pain and there was nothing to indicate her condition except a hard mass in the lower abdomen.

He also presented a tubercular kidney, which had been removed from a patient, the symptoms dating back ten years. He also presented a report of a case of double uterus and another case in which he had found a mass deep in the pelvis behind the posterior peritoneum, which proved to the right kidney.

Dr. S. M. Miller reported a case of a girl 9 years old, who had pneumonia last January, which was followed by an empyema of the right pleural cavity.

This perforated spontaneously in June in the third interspace near to the right sternal margin. As the opening gave poor drainage, and did not promise an early closure, on July 27 he resected one inch of the sixth rib in the anterior axillary line. The empyma was of five months' duration, and the lung had been retracted for that length of time. He used Van Hook's air pump as described by Richter in "Surgery, Gynecology and Obstetrics" in the March issue, to create a continuous negative intrathoracic pressure, with the threefold object of causing the expansion of the lung, and its resumption of function at the earliest moment, of securing the most perfect drainage, and of closing the pleural cavity by the approximation of the lung to the chest wall. The apparatus accomplished the result admirably. Where the tube perforated the chest wall he made an air-tight joint necessary to the perfect working of the apparatus by applying a rubber dam to the chest wall by means of zinc oxid ointment. The rubber tube perforated this and was fastened to it by a purse-string suture.

While this apparatus accomplished the object nicely, it is open to the objection of being rather cumbersome, and, too, it chains the patient to his bed, or gives him only a limited range of freedom. It was, therefore, replaced by the apparatus described by Bryant in the August number of "Surgery, Gynecology and Obstetrics." It consists of a rubber tube used for drainage, which projects eight or ten inches beyond the chest wall. To the end of this a compressed rubber bulb is attached, which thus exerts a continuous aspirating force on the pleural cavity. If greater aspirating force is desired, the air can be partially exhausted from the pleural cavity with a Potain aspirator, after which the bulb is attached, or a larger rubber bulb of stiffer rubber may be used, such as a Politzer bag, or the bulb used in connection with the Ewald stomach tube. However, the continuous slight aspirating force obtained by this small bulb, which this patient is wearing, has accomplished the purpose. It is not desired to obtain the expansion of the lung immediately, but this is accomplished gradually in the course of several days. This apparatus has the advantage over the Van Hook apparatus of simplicity, and of allowing the patient his freedom, if as is the case here, the patient is able to be about immediately after the operation.

In applying the zinc oxid ointment and rubber dam to the chest wall it was found that particles of the zinc oxid ointment were forced into the pleural cavity through the opening alongside of the drainage tube, to be later discharged through the drainage tube. In using the Bryant apparatus this was avoided by applying broad strips of zinc oxid adhesive plaster to the chest wall over the drainage opening. This was perforated with the rubber drainage tubing, and the joint was made tight around the tube by a purse-string suture in the adhesive plaster as before.

Dr. Miller exhibited a second specimen of a uterus which was the seat of multiple myomata, complicated by sarcoma. The history of the case was as follows: A woman 51 years old, who had not yet passed the menopause, had noticed that she began to flow profusely six months previously. The flow increased in quantity and duration, till finally she flowed continuously. There were no other symptoms aside from the weakness and pallor attendant on the loss of blood. There was moderate loss of flesh. The pelvic examination showed the uterus slightly enlarged, with a mass palpable in the fundus, firm, smooth, not tender, not adherent, moving freely with the uterus. The cervix was negative. Otherwise the examination revealed nothing except a right inguinal hernia, and a small adenoma of the thyroid gland that had been present for many years without growth. The urinary examination was negative. The hemoglobin estimation was 45 per cent. The diagnosis of myoma of the uterus was made. The cervix was first dilated with the Bossi dilator, and the uterus was packed to control the hemorrhage, in order to increase the hemoglobin of the blood, if possible, before undertaking a major operation. The hemorrhage stopped for two weeks, and then recommenced. At this time the hemoglobin had reached 65 per cent. The uterus was again packed and the hemorrhage was again controlled. After ten days more the hemoglobin had reached 75 per cent. At this time a supracervical hysterectomy was performed. The patient made a good recovery.

The specimen shows the uterus studded with myomatous nodules of small size. One at the fundus projects into the uterine cavity. The others are situated in the parenchyma of the organ. At the fundus there is a larger nodule, about the size of a hen's egg. These nodules show the characteristic structure of myomata, being firm, hard, white and smooth on cut section. They are distinctly encapsulated, with the exception of the large nodule near the fundus. This tumor on cut section is soft, of a grayish white color, and is not encapsulated, cannot be enucleated as the typical myoma. Its boundaries are not definitely marked. This tumor presents the gross appearance of malignancy. Under the microscope are to be seen side by side sections from one of the fibroids, and of the sarcoma at the fundus. The first shows the characteristic arrangement of the fibers in whorls seen in typical fibroid, while the second is entirely cellular, being composed of small round cells, with little intercellular substance and infiltrating the muscle. The microscopic diagnosis is round-celled sarcoma of the uterus.

We have here an interesting example of fibroids and sarcoma occurring together in the same uterus. The coincidence of sarcoma and fibroid is strongly suggestive that the sarcoma occurs as a secondary degeneration of a pre-existing fibroid. Sarcoma of the uterus is a relatively rare occurrence. It is present about one-eighth as often as carcinoma. It occurs as a complication of fibroid of the uterus in from 1½ to 3 per cent. of all cases of fibroids. Lewis (ILLINOIS MEDICAL JOURNAL, October, 1905), has gathered 1,518 cases of fibroids of the uterus from the literature. Among this number there were 22, or 1.45 per cent., that were complicated by sarcoma of the uterus. This case presented the clinical picture of a myomatous uterus. There was nothing in the history to suggest the presence of a malignant growth. The growth was still confined to the uterus. There has been no evidence of metastases. Up to the present there has been no signs of recurrence. The uterus was extirpated six months ago. This period is, of course, too short to be assured of the absence of metastases.

On motion the society adjourned.

FREDERICK K. SIDLEY, *Secretary.*

SANGAMON COUNTY.

The Sangamon County Medical Society held its regular monthly meeting in Lincoln library, September 10. The meeting was called to order by the president, Dr. Berry. The minutes of the previous meeting were read and approved. The application of Drs. Don W. Deal and H. A. Aschauer, both of Springfield, were read and referred to the board of censors. Dr. Priest, of Williamsville, and Dr. Blankmeyer, of Springfield, were elected to membership. Dr. Griffith, as chairman of the Defense Fund, read a letter from Dr. Evans concerning the plans for organization. Dr. Griffith also read a letter from a committee of Chicago physicians which outlined the manner in which the new organization intends to handle damage suits against physicians. On motion of Dr. Langdon, Dr. Griffith's report was received. As Dr. J. Whitefield Smith, of Bloomington, is to talk to the society especially on the subject of defense at the October meeting the matter was laid over until that time.

Dr. Bullard read the essay of the evening on Reflex Headaches. The following classification of headaches by Stevens, was given: 1. Organic headaches; 2. Headaches from cerebral hyperemia; 3. Headaches from cerebral anemia; 4. Reflex headaches; 5. Toxemic headaches; 6. Hysterical headaches. The subject in general was discussed and illustrations of each type given.

The general class of reflex headaches was subdivided and those cases depending on the fifth nerve were considered more in particular. The anatomy of the parts involved was reviewed. The author stated that reflex headaches included about 75 per cent. of all headaches and that about 80 per cent. of these are due to eyestrain. Unbalanced muscles, astigmatism, errors in refraction, continued use of the eyes, nasal catarrh, etc., were discussed with regard to their causal relation to headaches. The treatment outlined for this class of cases was the removal of the

several causes, by suitable local treatment in the catarrhal conditions and the securing of normal vision by proper glasses.

An interesting case was reported in which double abscess of the antrum caused intractable headaches for two years. The nasal walls of each antrum were removed and the cavities curetted and packed. One side was permanently cured, the other has recently caused more trouble and received the same treatment as before. A case of double frontal sinusitis was also reported in which relief was obtained by removal of middle turbinates and gradual dilatation of the openings to the frontal sinuses by a probe armed with cotton, saturated with cocain and adrenalin.

The paper was well received and discussed with much interest. Dr. Kelly said that many cases of reflex headaches seemed to be incurable, in which cases recourse to the coaltar products was advisable. Dr. A. D. Taylor advised operation on the frontal sinuses, when other efforts at relief failed. Dr. Langdon thought that many cases might be cured by the protoiodid of mercury; but that genuine migraine was well nigh incurable. He pointed out the hereditary tendency in these cases and noted their close relation to epilepsy. Dr. Berry thought that headaches accompanied by vomiting were usually gastric in origin but might be reflected from any other part of the body. Dr. Hagler said that headaches that could be relieved by full doses of belladonna were pretty certainly due to eye-strain. Dr. Hagler and Dr. Dixon each related cases in which headaches were due to irritation caused by conjunctivitis resulting from crab lice.

The meeting closed in order.

R. D. BERRY, *President.*
C. R. SPICER, *Secretary.*

SANGAMON COUNTY.

The Sangamon County Medical Society held its regular monthly meeting October 8, in the Lincoln Library. Minutes of the previous meetings were read and approved. Drs. John W. Deal and H. A. Ashauer, of Springfield, were elected to membership. Dr. Kreider read and moved the adoption of the following resolutions, which had been adopted by the Montgomery County Medical Society:

WHEREAS, The legislature of the State of Illinois has found it necessary for the protection of society to pass laws prohibiting the indiscriminate sale and distribution of medicines by incompetent and unscrupulous itinerant vendors of the same; and

WHEREAS, We regard such sale and distribution of medicines dangerous to the welfare of the public; and

WHEREAS, In order to evade the liability under said laws, we find that many druggists lend themselves to such fraudulent and incompetent purveyors of medicine by becoming sales agent for them; therefore, be it

Resolved, That we, the members of the Sangamon County Medical Society, condemn the action of the druggists who serve as tools and agents of such wandering frauds; and be it further

Resolved, That we regard druggists who stoop to such practice, as conspirators against said laws and unworthy of the confidence of the medical profession, and that we deem it wise in the future to withold our patronage from all druggists who lend themselves to this nefarious traffic; and be it further

Resolved, That a copy of these resolutions be sent to every physician and druggist in the county; and to the editor of the ILLINOIS MEDICAL JOURNAL, with the recommendation that other county societies take similar action.

The resolution was unanimously adopted by the society.

Dr. J. Whitefield Smith, of Bloomington, gave a talk on the Medical Defense Fund. The doctor referred to the efforts that had been made at various times by the physicians of the state to establish a fund for the defense against malicious prosecution. He called attention to the fact that the house of delegates of the Illinois State Medical Society was a properly delegated body and acted quite within its authority in voting the fund. He spoke of the fund accumulated in the

past five years by the physicians of Chicago and noted the fact that in that time the malicious prosecutions had been reduced by more than 75 per cent. Many other good points were brought out to show the advantages of united defense. The difficulties already encountered and to be expected later were carefully considered.

The discussion was generally favorable to the adopted plan. Dr. Langdon, while favorable to united defense, expressed a doubt as to whether the proposed assessment would be sufficient. Dr. E. E. Hagler, also favorable to defense, thought it of great importance to employ council specially versed in this particular branch of law. He related an instance in which he had seen a case easily won for the defense by his attorney holding the plaintiff strictly to the few questions that were properly admissable in the case.

Dr. Hopkins gave an informal talk on Medical Education in Europe. He spoke of the opportunities in all the departments of the hospitals of Vienna owing to the large amount of clinical material, the easy access to the different hospitals, the complete classification of the cases and the limited numbers in the special classes. He reviewed the work in several of the clinics and noted the high mortality in certain classes of cases which was due, he thought, to the fact that many cases were operated on when in almost a hopeless condition. The doctor spoke of the high standing and the efficient work of the American Medical Society of Vienna. The hospitals and general medical aspect of Paris were considered at some length. The courtesies extended to American students by French professors were especially noted.

In discussing Dr. Hopkins' talk, Dr. Dixon contrasted the work he had seen abroad with that done by the Mayo brothers, much to the credit of these gentlemen.

In closing the discussion, Dr. Hopkins expressed the opinion that many erroneous impressions had been gained from the teachings of the Mayos. He related a case where he had seen this opinion confirmed by a good operator's mistake.

The meeting closed in order.

R. D. BERRY, *President.*
C. R. SPICER, *Secretary-Treasurer.*

VERMILION COUNTY.

The Vermilion County Medical Society met at Rossville, Oct. 8, 1906, in Masonic Hall. The president and secretary not being present, C. E. Wilkinson was elected president pro. tem. and L. B. Russell, secretary. The minutes of the September meeting were read and adopted. The transfer of Dr. Rachel Cooper from the Champaign County Medical Society was accepted and the names of S. R. Wilson, of Rossville, and J. M. James, of Henning, were proposed for membership.

The program was: Typhoid Fever; Diagnosis—Special and Clinical, by Leroy Jones, of Hoopeston. Discussion opened by Isaac Mayhugh, of East Lynn.

Adjourned to the Williams Hotel for dinner, after which the program was resumed at 7:30. The following papers on Tuberculosis were then read: Medical Aspect, C. E. Brown, Rossville; Surgical Limitations, W. A. Cochran, Danville: Discussion opened by R. S. McCaughey, Hoopeston.

Adjourned. L. B. RUSSELL, *Secretary, Pro. Tem.*

BRAINERD DISTRICT MEDICAL SOCIETY.

This Society held its 119th quarterly meeting at Mason City, Oct. 25, 1906. A. L. Cook, of Mason City, read a paper on Tuberculosis. Dr. B. W. Hole read a paper on Premature Birth. A number of members were in attendance and a good meeting held.

NEWS OF THE STATE.

Dr. Edmund J. Doering, Chicago, has returned from Europe.

Dr. G. Fordyce, Streator, is suffering from an attack of appendicitis.

Two cases of smallpox are reported from Hillary, Vermilion County.

Dr. H. S. Hughes, of Buffalo, has sold his practice and moved to St. Louis, Mo.

Dr. and Mrs. Arthur R. Elliott returned from Europe the latter part of October.

The Isolation Hospital, Granite City, was burned October 16, with a loss of $1,500.

Dr. Jonathan Dearborn, Mount Sterling, celebrated his eighty-first birthday, October 6.

Dr. S. S. Beaupre has been appointed health officer of St. Anne, vice Dr. D. Henry Pelletier.

Dr. Howard Crutcher, chief consulting surgeon of the Alton System, will, it is reported, move to Mexico, Mo.

Dr. James W. Sanders, Decatur, has been elected a member of the board of directors of the Bethsaida Hospital Association.

The plans and specifications for the Graham Hospital, Canton, are nearly completed and construction will be begun this fall.

Dr. Carl Hays, a recent graduate of the St. Louis Medical College, left Pleasant Plains for Midland, Texas, where he will practice.

Dr. O. H. McIntosh, of Pleasant Plains, has bought the practice of Dr. Benton W. Hole and will remove to Tallula, Menard County.

Dr. C. M. Bowcock, of Springfield, has returned from Rochester, Minn. While there he was successfully operated on for gallstones.

Dr. J. S. Clark has finished his services as interne at the Illinois Charitable Eye and Ear Infirmary and will enter practice in Freeport.

Dr. E. A. Bleuler, of Carlinville, has sold his practice to Dr. F. M. Wood, of Holmdel, N. J., and will move November 1 to Seattle, Wash.

By the will of the late Adolph Loeb, $500 was bequeathed to the Michael Reese Hospital and $250 to the Alexian Brothers' Hospital of Chicago.

Dr. Parley W. Monroe, of Springfield, has removed to the City of Mexico, Mexico, where he will form a partnership with an American physician.

Dr. Broughton's sanitarium at Rockford has been incorporated, with a capital of $40,000, by Dr. Russell Broughton, J. T. Robertson and R. K. Welch.

The Chicago City Council finance committee, on September 28, authorized the health commissioner to purchase an automobile for emergency inspection work.

Dr. Anders Doe, one of the delegates of the Norwegian National League at the coronation of the king of Norway, has returned after an absence of four months.

Dr. D'Orsay Hecht has been elected assistant professor of nervous and mental diseases and medical jurisprudence at the Northwestern University Medical School, Chicago.

Typhoid fever is reported in thirty-five counties of the state. Dr. Egan has asked physicians in these counties to send in reports regarding the condition of the water supply.

Five cases of smallpox are reported at Galesburg, with three foci of infection. The special need of the city is an isolation hospital, which will probably be built in a short time.

Dr. J. S. Clark has returned to Freeport after a term of service as resident surgeon in the Illinois Charitable Eye and Ear Infirmary, Chicago. He is associated with Dr. W. J. Rideout.

Dr. Alfred Schalck has been appointed professor of dermatology and genito-urinary diseases in the Medical College of the University of Nebraska, Omaha, and has moved to that city.

A case of smallpox in a colored woman is reported from Moline. Health Commissioner Meyer has instructed the superintendent of schools that all children in the infected district must be vaccinated.

Dr. H. C. Betts, an interne at the Cook County Hospital, was seriously injured by an explosion of chemicals in the drug room of the hospital. The explosion occurred while Dr. Betts was mixing oil of wintergreen and chlorate of potash.

On October 3, the first month of the tuberculosis camp at Dunning ended. Ten men and women are under treatment and more are expected. Another portable house, which will accommodate more patients, is almost ready for occupancy.

An epidemic of diphtheria has reached such dimensions in Brimfield that schools have been ordered closed and public meetings have been prohibited. Four cases of scarlet fever and five cases of diphtheria are reported from Moline.

The People's Hospital, Chicago, will move into a new building on the corner of Twenty-third Street and Archer Avenue. The new building will cost $40,000, and will afford accommodations to a larger number of patients than the hospital can now accommodate.

The board of education of Marseilles has ordered the schools of that city to be closed for an indefinite period on account of diphtheria. Sunday school meetings and other gatherings have been prohibited, and a strict quarantine has been established at the infected points.

The Health Department of Chicago reports that at present the health department has a record of only about 60 per cent. of the births in Chicago, and legislation is required which will make it necessary to present a certificate of birth before a child can enter the public schools.

The Presbyterian Hospital has filed a claim for $50,000 against the estate of the late Marshall Field, who, it is claimed, made a tentative bequest of that amount conditional on the donation of $400,000 to the

institution by other persons. It is related that this money has been raised by other persons.

Dr. Augustus H. Malm, Princeton, coroner of Bureau County, by virtue of a provision of the state law, will also take the office of sheriff of the county for two months. The law provides that if the sheriff dies within a year of the next succeeding election, the coroner shall fill out the unexpired term.

At a regular meeting of the Decatur Medical Society, September 25, it was decided that the names of members should not be mentioned in connection with medical matters in the daily press and that if such notice should appear, the physician in question would be requested to explain at the next meeting of the society.

Dr. Sidney McLeod, physician for the International Harvester Company, South Chicago, was injured by the wrecking of a police patrol wagon while on his way to answer an emergency call. The horses became frightened by the glare of a blast furnace and plunged down an embankment, wrecking the wagon and injuring all of the occupants.

Dr. Ferdinand Henrotin, Chicago, is compiling a book, at the request of President Brundage of the County Board, which will contain histories of unusual and extraordinary medical and surgical cases, which have come to the attention of the County Hospital staff. Articles will be written by Dr. Henrotin and other members of the staff of the hospital.

The State Board of Health has called the attention of mayors, chiefs of police and license-issuing officers of municipalities of Illinois to the fact that in issuing licenses to itinerant vendors of medicine who do not hold licenses as such, issued by the State Board of Health, they are approving and giving their sanction to a direct violation of the state law.

Miss Carrie Buzzell, a stenographer, living at 144 Van Buren Street, has brought suit for $20,000 damages against Dr. John T. Webster, who, she asserts, left a broken needle in her body after a surgical operation. Dr. John T. Webster, of 6427 Stewart Avenue, stated to a reporter that he had no knowledge of the case nor any recollection of having treated Miss Buzzell.

The heirs of John Gonsalves, Springfield, have brought suit against Drs. Daniel M. Otis and Charles G. Graser for $5,000 damages. They allege that following the death of Gonsalves at the hospital on August 8, a postmortem was held without their consent. They declare that the body was mutilated, and asked that the surgeons performing the autopsy be made to pay heavy damages.

Dr. George A. Zeller, superintendent of the Illinois Hospital for the Incurable Insane, Bartonville, in a paper to be read before the State Conference of Charities, recommends the transformation of the Soldiers Orphans' Home at Normal into a hospital for epileptics. There are, he says, 6,000 epileptics in the state; of these 1,400 now receive aid in some form, and the need for such an institution is urgent.

Dr. Sarah Hackett Stevenson, of Chicago, a prominent member of women's clubs and medical societies for many years past, is reported in a very critical condition. Dr. Stevenson suffered a stroke of paralysis

about three years ago, since which time she has been gradually failing. She has been removed to St. Elizabeth's Hospital, and much anxiety is felt by her numerous friends on account of her present condition.

It is reported from Winchester that, during September, a man calling himself W. A. Magee and claiming to come from Chicago, traveled through the northern part of Scott County, selling medicine to a number of farmers and taking their notes in payment for his preparations. The Scott County authorities would be glad to have information regarding the movements or the whereabouts of this individual as a basis for prosecution.

Frost and Granger, architects, have submitted plans and estimates for the George Smith Annex to St. Luke's Hospital, Chicago, which is to be erected in memory of George Smith, formerly a prominent member of the Chicago Board of Trade. The addition will cover 135x160 feet. The main building to be six stories, of fireproof steel construction, pressed brick and stone exterior and will be erected at the cost of $450,000. It will contain accommodations for 150 private patients.

The Illinois State Board of Health is inaugurating a vigorous campaign against itinerant vendors of medicine, who are doing business in the state in violation of the statutes. According to the state law, no person is authorized to sell drugs or medicines from house to house, or any public place, and all who do so are liable to a fine of $100, or imprisonment for thirty days. This fact should be noted and acted upon by county societies and physicians in those localities which are visited by itinerant fakirs.

The American Association of Railway Surgeons met in Chicago at the Palmer House, October 19 and 20. A large number of members of the Association were in attendance and numerous papers were read. The following officers were elected for the coming year: President, W. S. Hoy, Wellston, Ohio; First Vice-President, M. Cavana, Silvan Beach, N. Y.; Second Vice-President, Charles H. Mayo, Rochester, Minn.; Third Vice-President, S. H. Burnside, Wichita Falls, Texas; Secretary, H. B. Jennings, Council Bluffs, Iowa; Treasurer, T. B. Lacy, Council Bluffs, Iowa; Editor, Louis J. Mitchell, Chicago.

Dr. Ernest Wertheim, professor of gynecology in the University of Vienna, spent a week in Chicago early in October as the guest of the Chicago Gynecological Society, and gave clinics at the Postgraduate Hospital and the Presbyterian Hospital. He was entertained by Dr. Gustav Kolischer at a dinner at the Chicago Beach Hotel and by Dr. Franklin H. Martin at a luncheon at the Union League Club. A banquet was given in his honor, October 10, by the Chicago Gynecological Society, at the close of which the guest of honor read a paper before a joint meeting of the Chicago Gynecological Society and the Chicago Medical Society on "Radical Abdominal Operation in Carcinoma of the Cervix Uteri."

The sixty-seventh annual session of the Military Tract Medical Association was held October 18 at Macomb. A large number of physicians from all over the district were present. Addresses were delivered by Dr.

James A. Egan, secretary of the State Board of Health, on the relation of the state to the public health, and by Dr. J. W. Pettit, of Ottawa, medical director of the Ottawa Tent Colony, on tuberculosis. A number of other papers were read by members of the society and invited guests. The annual election of officers resulted as follows: President, J. P. Roark, Bushnell; First Vice-President, S. C. Stremmel, Macomb; Second Vice-President, E. E. Davis, Avon; Secretary and Treasurer, F. E. Wallace, Monmouth.

The Chicago Pasteur Institute, Dr. A. Lagorio, director, has issued a report of the results of the preventive treatment of hydrophobia obtained since its establishment July 2, 1890. Since that time, 2,775 patients have been treated for hydrophobia. Of these, 2,474 were bitten by dogs, 84 by cats, 100 by horses, 23 by skunks, 6 by wolves, 29 by cows, 9 by calves, 2 by burros, 4 by coyotes, 1 by a rat, 4 by mules, 5 by pigs, 1 by a sheep, and 31 by hydrophobic human beings. One thousand four hundred and six patients were bitten on the hands and wrists, 388 on the head and face, 359 on the arms, 584 on the legs and thighs and 42 on the trunk. In 1,456 cases, the diagnosis of hydrophobia was confirmed by a microscopical examination of the brain of the animal, or by an inoculation experiment. Seven deaths have been reported, thus giving a mortality of 0.25 per cent. Seven persons abandoned treatment after coming to the institute; two of these were subsequently taken with hydrophobia and died.

MARRIAGES.

L. Austin Burr, M.D., to Miss Josephine Raney, both of Bloomington, Ill., October 17.

Harry Edward Clyde, M.D., Evanston, Ill., to Miss Jennie Mae Rothrock, of Chicago, October 3.

Arthur M. Smith, M.D., Los Angeles, Cal., to Miss Ellen Leona Milligan, of Chicago, October 18.

C. E. Soule, M.D., of Byron, Ill., to Miss Nellie S. Mix, at Davenport, Iowa, Thursday, September 27.

DEATHS.

Eva M. L. Scobell, M.D., Hering Medical College and Hospital, Chicago, 1899, died at her home in Chicago, September 11, aged 33.

Harvey Dunn, M.D., St. Louis Medical College, 1867, died at his home in Perry, Ill., September 11, after an illness of several years, aged 72.

J. Y. Campbell, M.D., Chicago Medical College, 1895, for 25 years a practitioner of Paxton, Ill., died at his home near Rochester, Ind., September 21.

George A. Williams, M.D., St. Louis Medical College, 1865, one of the oldest practitioners of southern Illinois, died at his home in Hardin, September 30, aged 65.

Reuben H. Baker, M.D., Chicago Homeopathic Medical College,

1890, of Pearl City, Ill., died at St. Francis Hospital, Freeport, Ill., October 9, two days after an operation for appendicitis, aged 42.

H. G. VAN SANDT (Years of Practice, Illinois), a veteran of the Civil War, a trustee of the Illinois State Normal School, Charleston, died at his home in Montrose, Ill., September 21, from cerebral hemorrhage, aged 63.

JAMES MOFFITT, M.D., Rush Medical College, Chicago, 1868; who retired from practice in 1880 on account of ill health and has been an invalid for the past 18 years, died at his home in Monticello, Ill., September 21, from uremia, aged 66.

MARIE E. FRAHM, M.D., Northwestern University Woman's Medical School, Chicago, 1899; formerly a practitioner of Mattoon, died at her home in Tuscola, Ill., September 30, from cerebral hemorrhage, after an illness of one week, aged about 30.

GUILFORD DUDLEY ELDER, M.D., University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1877; a veteran of the Civil War; a member of the McLean County (Ill.) Medical Society, died suddenly, October 1, at his home in Bloomington, from cerebral hemorrhage, aged 59.

JEROME B. SNYDER, M.D., Chicago Medical College, 1864; a veteran of the Civil War; for two years a member of the City Council and for seven years president of the board of education of Polo, Ill.; United States examining surgeon for four years; a member of the Ogle County Medical Society, died at his home in Rowan, Iowa, September 29, after a long illness, from cancer of the stomach, aged 62.

ARNOLD PLUMER GILMORE, M.D., Jefferson Medical College, Philadelphia, 1874; formerly of Winona, Minn., but for more than 20 years a resident of Chicago, and a specialist on diseases of the eye and ear; president of the Columbus Safe Deposit Company, and one of the principal owners of the Columbus Memorial building; one of the members of the first board of trustees of the Sanitary District, died at his home in Chicago, October 10, from Bright's disease, after a long illness, aged 55.

NEW MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

The following new members from Illinois have been received during the month of October:

Asbury, I. M., McLeansboro.
Butterfield, E. H., Ottawa.
Blech, G. M., Chicago.
Behrendt, Alex., Chicago.
Bak, E. W., Chicago.
Brown, M. R., Chicago.
Carroll, C. L., Taylorville.
Dewey, Grace, Jacksonville.
Holmboe, A., Chicago.
Hutchinson, Robert, Capron.
Harlan, J. D., Fairfield.
Lindley, A. M., Urbana.
Lyon, C. M., McLeansboro.
McDowell, W. D., Chicago.
McGrath, W. W., Savanna.
Miller, R. C., Shannon.
McCall, T. E., Vienna.
Moore, W. H., Dixon.
Parker, C. A., Chicago.
Struzynski, L. M., Joliet.
Shapiro, H. B., Chicago.
Thompson, H. L., Harrisburg.
Taylor, J. L., Springfield.
Threadgill, J. M., New Douglas.
Wedge, D. C., Ipava.
Wagner, T. H., Joliet.
Woodside, E. E., Johnston City.

ILLINOIS STATE MEDICAL SOCIETY

MEDICO-LEGAL COMMITTEE.

EXECUTIVE COMMITTEE.

FROM ILLINOIS MEDICAL SOCIETY.

W. A. Evans, 103 State St., Chicago. Central 2740.
H. N. Moyer, 103 State St., Chicago. Central 2751.
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